# Landscape in Connection with Tree Planting, No. 4.

(Conclusion.)

IF we have succeeded in getting the ear of the landscape improver, by illustrating to the eye the effects of grouping, we have only now to add, that the study of the subject, to be effective, must be combined with a certain amount of arboricultural knowledge before the work is commenced. If we do not know the natural heights which each species attains, the first principle is wanting. Merely to group for the effect of the present year, by planting trees according to their respective heights in the nursery rows, would be attended with certain disappointment as the plants made progress; while the centre tree would scarcely grow in height, the outside ones might in two or three years overtop them, and throw them entirely out of sight. Hence it is that the services of a landscape-gardener with this knowledge, is necessary to success, and hence it also is, that persons without this previous knowledge are always pretenders.

While groups may be made so very effective, even in small places, the greatest care, in a large scene, must be taken that irregularity of breadth be preserved in the glades or pastures, and that the dotting system be strictly avoided; by spotting groups equally all over a surface, repose is frittered away, and no breadth or varied expanses of lawn, which are so much to be desired, are shown.

The rarest and most interesting kinds of trees and shrubs ought to appear nearest to the road, walk, or mansion, or they might be otherwise overlooked. In a dressed border, efforts should be strenuously made to have shrubs and plants some of which will bloom at all seasons, and such should be selected that do not require much water, where the means of irrigation are not at hand.

As regards our final illustrations of grouping, Fig. 19 is far more in unison with two Spruce Firs, as they there appear, than if they were planted on the outside of the whole of the Poplars, on account of their deeper tone; or a group of Spruce Firs or Larch (Fig. 20) with a Silver Fir or Cedar of Lebanon, is more in character than if either of the latter were placed on one side.

A large or massive group, composed of various trees, and of various heights and distances, with the most striking character blended inside, would produce an assemblage of varied outline and of natural loveliness (Fig. 21); but if a single tree only, of striking character, were placed on one side of such a group—as, for instance, a Cedar of Lebanon, Scotch Fir, Austrian Pine, Spruce Fir, Larch, or Purple Beech—the balance of beauty would be instantly destroyed.

This little essay on grouping and massing may perhaps convey some ideas to improvers, and give to those in possession of country places an impetus to a more extended study of the charming topic; possibly, too, it may induce others in possession of trees to give them artistic changes, affecting and beautifying their whole character for present and after time. The subject admits of much extension, but as brevity has to be studied in these pages, we give place at present to other topics.

## SAXE-GOTHÆA CONSPICUA.

This remarkable plant, to which His Royal Highness Prince Albert has permitted one of his titles to be given, and which will probably rank among the most highly valued of our hardy evergreen-trees, is a native of the mountains of Patagonia, where it was found by Mr. William Lobb, forming a beautiful tree thirty feet high. In the nursery of Messrs. Veitch, of Exeter, it has lived in the open air for four years without shelter, and has all the appearance of being well-adapted to the climate of England. The country in which it grows is, indeed, more cold and stormy than any part of Great Britain, as is shown by the following account of it, given by Mr. Lobb in one of his letters to Messrs. Veitch:—

"During my absence, I visited a great part of Chiloe, most of the islands in the Archipelago, and the coast of Patagonia for about one hundred and forty miles. I went up the Corcobado, Caylin, Alman, Comau, Reloncavi, and other places on the coast, frequently making excursions from the level of the sea to the line of perpetual snow. These bays generally run to the base of the central ridge of the Andes, and the rivers take their rise much further back in the interior. The whole country, from the Andes to the sea, is formed of a succession of ridges of mountains gradually rising from the sea to the central ridge. The whole is thickly wooded from the base to the snow line. Ascending the Andes of Comau, I observed, from the water to a considerable elevation, the forest is composed of a variety of trees, and a sort of cane so thickly matted together that it formed almost an impenetrable jungle. Further up, amongst the melting snows, vegetation becomes so much stunted in growth, that the trees, seen below one hundred feet high and eight feet in diameter, only attain the height of six inches.

"On reaching the summit, no vegetation exists—nothing but scattered barren rocks, which appear to rise amongst the snow, which is thirty feet in depth, and frozen so hard that on walking over it the foot makes but a slight impression.

"To the east, as far as the eye can command, it appears perfectly level. To the south, one sees the central ridge of the Andes stretching along for an immense distance, and covered with perpetual snow. To the west, the whole of the islands from Guaytecas to the extent of the Archipelago, is evenly and distinctly to be seen.

"A little below this elevation, the scenery is also singular and grand. Rocky precipices stand like perpendicular walls from two hundred feet to three hundred feet in height, over which roll the waters from the melting snows, which appear to the eye like lines of silver. Sometimes these waters rush down with such force, that rocks of many tons in weight are precipitated from their lofty stations to the depth of two thousand feet. In the forest below, everything appears calm and tranquil; scarcely the sound of an animal is heard; sometimes a few butterflies and beetles meet the eye, but not a house or human being is seen. On the sandy tracts near the rivers, the lion or puma is frequently to be met with, but this animal is perfectly harmless if not attacked."

It is from this wild and uninhabited country that many of the fine plants raised by Messrs. Veitch were obtained, and among them the *Saxe-Gothæa*, *Podocarpus nubigena*, *Fitz-Roya patigonica*, and *Libocedrus tetragona*. Of these he writes thus:—

"The two last (*Fitz-Roya* and *Libocedrus*) I never saw below the snow line. The former inhabits the rocky precipices, and the latter the swampy places between the mountains. The first grows to an enormous size, particularly about the winter snow line, where I have seen trees upwards of one hundred feet high, and more than eight feet in diameter. It may be traced from this elevation to the perpetual

snows, where it is not more than four inches in height. With these grow the Yews (*Saxe-Gothæa* and *Podocarpus nubigena*), which are beautiful evergreen-trees, and, as well as the others, afford excellent timber."

SAXE-GOTHÆA may be described as a genus with the male flowers of a Podo-

A.—Branch of Saxe-Gothæa conspicua.

carp, the females of a Dammar, the fruit of a Juniper, the seed of a Dacrydium, and the habit of a Yew. Its fleshy fruit, composed of consolidated scales, inclosing nut-like seed, and forming what is technically called a Galbulus, places it near Juniperus, from which it more especially differs in its anthers not being peltate,

B.—Fructification of Saxe-Gothæa.

nor its fruit composed of a single whorl of perfect scales, and in its ovule having two integuments instead of one. In the last respect, it approaches Podocarpus, and especially Dacrydium; but the exterior integument of the seed is a ragged,

abortive membrane, enveloping the base only of the seed, instead of a well-defined cup. In a memorandum in my possession, by Sir William Hooker, I find this distinguished botanist comparing Saxe-Gothæa to a Podocarp with the flowers in a cone—a view which he was probably led to take by the condition of the ovule, and which may be regarded as the most philosophical mode of understanding the nature of this singular genus, to which Nageia may be said to be a slight approach, and which is not distinguishable, by habit, from a Podocarp.

In its systematic relations, Saxe-Gothæa possesses great interest, forming as it does a direct transition from the one-flowered Taxads to the true imbricated Conifers, without, however, breaking down the boundary between those orders, as I understand them, but rather confirming the propriety of limiting the Coniferous order to those genera which really bear cones instead of single naked seeds. In the language of some naturalists, Saxe-Gothæa would be called an osculant genus between Taxads and Conifers.

The leaves of this plant have altogether the size and general appearance of the English Yew, *Taxus baccata;* but they are glaucous underneath, except upon the midrib and two narrow stripes within the edges, which are pale green. The male flowers consist of spikes appearing at the ends of the branches, in a raceme more or less elongated. These spikes (Fig. B, 1) grow from within a few concave acute scales, which form a kind of involucre at the base. Each male is a solitary membranous anther, with a lanceolate, acuminate, reflexed appendage, and a pair of parallel cells opening longitudinally. The female flowers form a small, roundish, pedunculated, terminal, scaly, imbricated cone (Fig. B, 3). The scales are fleshy, firm, lanceolate, and contracted at their base, where they unite in a solid centre. All appear to be fertile, and to bear in a niche in the middle, where the contraction is, a single inverted ovule (Fig. B, 4). The ovule is globular, with two integuments beyond the nucleus; the outer integument is loose and thin, and wraps round the ovule in such a way that its two edges cannot meet on the under side of the ovule; the second integument is firm and fleshy; the nucleus is flask-shaped, and protrudes a fungous circular expansion through the foramen. The fruit (Fig. B, 5) is formed, by the consolidation of the free scales of the cone, into a solid, fleshy mass of a depressed form, and very irregular surface, owing to many of the scales being abortive, and crushed by those whose seeds are able to swell; while the ends of the whole retain their original form somewhat, are free, rather spiny, and constitute so many tough, sharp tubercles. The seed (Fig. B, 6) is a pale brown, shining, ovate, brittle nut, with two very slight, elevated lines, and a large, irregular hilum; at the base, it is invested with a short, thin, ragged membrane, which is the outer integument in its final condition. The nucleus lies half free in the interior, the fungous apex having shrivelled up and disappeared.

*Explanation of the Cuts.*—A, a branch with male and female flowers, natural size; B, various details of the fructification, more or less magnified; 1, a spike of male flowers; 2, a male or anther apart; 3, a twig and young cone; 4, a scale seen from the inside with the inverted ovule, showing the fungous foramen protruding beyond the primine (outer integument); 5, a ripe fruit; 6, a seed, showing the two slight elevations upon the surface, and the remains of the ragged primine at the base.—*Dr. Lindley, in Horticultural Society Journal.*

[Mr. Sargent considers the Saxe-Gothæa hardy in the *climate* of the North River. It belongs to the yew-leaved form of evergreens.—Ed.]

## VISITS TO COUNTRY PLACES.—NO. 9.
## AROUND BALTIMORE.

How much or how little a traveller sees, depends upon two circumstances; the state of his own inquisitiveness, and the amount of intelligence he meets with from those whom he associates with on his tours. That the masses who visit our principal cities as "travellers" know very little of the places they pass through, is evident; without introductions, conversation is perhaps confined to the fellow-passenger, who knows more of the place just left than of the one approached. The hotel life is unfavorable to accurate investigation; we may see the outside of a city just as most Americans see Paris, but as to its inner life, how few know anything of it. Who has ever described country life in France? and yet there is such a thing; Lafayette's family was an example, and there are many others equally agreeable. Who has described country life in America? or who has seen it? As to the *neighborhood* of New York, Boston, Philadelphia, or Baltimore, how many of the millions who land in their streets and hotels know anything of the clever, quiet people who are leading sensible lives on the outskirts? Not one of the thousands. And yet, these honest livers are numerous, are thrifty or wealthy, and pursuing objects of interest in agriculture, horticulture, literature, and those subjects of an enlightened social life, that lend an indescribable charm to civilization. When we say one-half the world knows not how the other half lives, we mean, how it gets its living—procures its bread; but we might say as correctly, that nine-tenths of our population know not the extent of the civilization of their neighbors.

This will be apparent, for instance, if a traveller who has heretofore made the Baltimore hotels his sole acquaintance, will domesticate himself in the vicinity, and, with the aid of an intelligent friend, explore the neighborhood; he will find much more intelligence, progress, and high civilization, than the external aspect of things, as he viewed them from the cars, has led him to expect, however attractive in many particulars, that may be.

We found, after such an examination, much more to admire, in a horticultural sense, than we had any expectation of; indeed, Baltimore, in proportion to its population, is not behind its compeers in enthusiasm for good culture, botanical riches and results. It has had no Magazine of its own, to chronicle and spread a knowledge of its doings, and yet it has a spirited horticultural society, excellent commercial gardeners, private collections of plants, and an amount of amateurs that quite surprised and delighted the little horticultural party which had surveyed with admiring eyes the finest places "at the North." In private life, there is a style, and even grandeur, which is rare anywhere; landscape-gardening has taken a high rank, and we cannot but wish the writer in the last *North American Review*, whose vision is so lamentably bounded by his "Boston Common," could extend his trips, and see scenery beyond "Cambridge;" we can assure him there *is* something beyond.

*Farm Lands*, the noble summer residence of Gustave W. Lürman, Esq., we have already described as a farm of six hundred acres, cultivated with a discriminative liberality, and yet with a large profit (see *Horticulturist* for December, 1856). It is about seven miles west of Baltimore, in a rolling country, commanding fine views of the city, the bay, and surrounding scenery.

The lady of the mansion is the presiding spirit of all that pertains to horticulture and planting; an enthusiast, in short, who never allows an opportunity to

escape for the acquisition of a new tree or plant. They have already as extensive a collection of rare trees and shrubbery as we know anywhere, most judiciously selected and planted, and promising to become one of the most beautiful in this country.

The house, one of great extent and comfort, without architectural pretension, is situated on a gradually ascending elevation from the gate, in the midst of an open grove of lofty oaks and chestnut oaks of such magnitude, as to permit the lower branches to be trimmed up sufficiently high to give the most extended views without interfering with the dignity and character of the wood itself. These views extend, in the rear, to a forest of some hundred odd acres, attached to the estate, giving one an idea, from its repose and depth, of the ancient chase. And, in front, for many miles over a most charmingly rolling and park-like country, where all the fences and barriers are most ingeniously concealed, to Baltimore—a distance of seven miles—and to the Chesapeake. We believe, in fine weather, this view even extends to the State House at Annapolis.

The middle distance, after emerging from the grove, consists of a gradually rolling and sloping lawn, with some fine cedars and other trees judiciously grouped, until it finally terminates in a valley, advantage of which has been taken with much taste and discrimination, to place a French flower garden of great beauty in gravel and box edging, and immediately in rear of which is a very handsome architectural greenhouse; a gardener's house, a grapery, a double curvilinear house, frame yard, with several hundred feet of brick pits, a well-concealed vegetable and fruit garden, and the other necessary appliances of country life.

A well designed and admirably executed walk conducts from the house through the valley to the garden and greenhouse, bordered by masses of the newer and more beautiful shrubs, with occasional single trees or plants of rare value.

Through the deeper part of the valley, the plantations assume the character of what in England is called "the American garden," and fine masses of Rhododendrons, Kalmias, Azaleas, Mahonias, Hollies, &c., abound in the greatest profusion and luxuriance. We do not remember ever to have seen finer or more superb Magnolias than in this portion of the grounds. The return walk passes over the side of several gentle elevations, and is in like manner tastefully planted with groups, masses, and single specimens of the rarer trees.

We believe it is the intention of Mrs. Lürman to form a Pinetum walk on this portion of the pleasure-grounds. There are, however, already at Farm Lands many fine specimens of the new Conifers.

Take it all in all, we know of no finer place south of Philadelphia, and, in fact, no place where a more charming effect is produced than the view from the house, under the canopy of lofty trees, over the gently rolling lawn to this soft and pretty valley, terminated in so bright and sparkling a manner with its brilliant French flower-garden and attractive greenhouse completely shutting in the view in this direction.

The defects, if defects they may be considered (and what place is without some?), are, perhaps, too great openness and extension in certain portions of the view; for we quite agree with Loudon in believing that even a park may be too large.

Our idea of the perfection of a place is such an amount of landscape as may reasonably be supposed to be within the compass of the ordinary fortune of the country in which the property is situated. Windsor Castle and Park would therefore be as inconsistent with our American fortunes as one of our suburban villas and lots would be for an English nobleman.

We would therefore be quite satisfied if the views at Farm Lands were confined to the five or six hundred acres comprising the estate, instead of reaching, as they

do, over many miles beyond; to be sure, similar landscape, but so extended as at once to impress the visitor with the impossibility of one individual owning the whole. However, this is a defect more or less belonging to all elevated situations, and one which so few persons would allow, that we may be thought captious even to have mentioned it. We therefore conclude our impressions of Farm Lands by repeating that, taking the farm and estate together, we know of few places more desirable.

## ELVASTON CASTLE.

### A LEAF FROM MY NOTE-BOOK.

BY ROBERT BUIST, PHILADELPHIA.

No doubt, Mr. Editor, you have often been interrogated, by your friends who were about making the "tour of Europe," with the question: "Which are the finest parks, pleasure-grounds, and pinetums, to visit?" The reply of course would be, Chatsworth, Woburn, Kew, &c.

ELVASTON CASTLE, to which I will call your attention, has been rarely viewed till within the past few years; it was a sealed book to all but its late owner and his workmen. It has, however, recently become one of the "sights," and is public on a specified day of the week. It is the seat of the Earl of Harrington, near Derby, and is celebrated for its profusion of evergreen-trees and shrubs; it is also known for its symmetric and natural planting. If there existed a hardy evergreen, it was soon deposited within the domain of this enthusiastic modern planter.

When I first visited it, in 1831, to see my youthful friend, Mr. Barrow, who then entered as gardener, I noted the place only for its long, level avenues of lindens and chestnuts, that had stood the storms of the past century. Mr. Repton, the famous landscape-planter, was invited, by the grandfather of the late Earl, to improve the grounds, but considered them so tame and level that nothing could be done; he planted about half a dozen Cedars of Lebanon, which remain, and they were the only evergreen-trees of any character on the place, in 1830. So meagre was the character of the place for trees, that the late Mr. Loudon, in his full garden statistics about 1829–30, did not even notice it.

The house is of the plainest exterior, with all the appendages of the establishment in conjunction with it; and, strange to say, the parish church in juxtaposition, but so retired and secluded, that no intrusion from thence could be effected.

A plain sheet of water, and an ancient flower-garden, with hedges of yew and laurel, formed the picturesque of this now noted spot in the above year. How changed the scene! The cool, collected, ingenious talent of the gardener, backed by the Earl's wealth and will, with a determination to produce what he had so long desired, has resulted, in so short a period, in effects which no other person has yet achieved, even with nature in all its grandeur at his command. The whole has been produced so quietly and privately, that comparatively few had realized a solitary view, unless taken from the top of the church, as was done by your friend, the late Mr. Downing, or on a very few special occasions granted by his Lordship. The following feebly shows what a few years have accomplished. The whole feature of the place is decidedly *Evergreen;* so that the grand avenue of lindens gives way to rows of Deodar cedars, Douglas firs, and Austrian pines, till you approach within half a mile of the mansion, where there is an inclosure by a ha-ha, or sunk fence, within which you enter by massive, gilded, iron gates. On the right, the column is covered with the golden ivy, and, on the left, the lodge is embedded with mantles of the green. So striking a contrast could not be over-

looked. You are now within the paddock, in a serpentine approach, planted on the right and left with variegated holly, backed with Cembra pine, whose sombre shade forms a striking contrast with the pale variegations of the holly. The next turning opens on beds of heather, beautifully in bloom, interspersed with boxwood, and screened from the mansion by towering specimens of Douglas fir and Cedars of Lebanon, whose tops are grafted with Deodars; the dark green of the former contrasting with the soft green of the latter, you could not resist the impression of the trees being covered with silken mantlets.

Another turning places the winter garden on the left, and brings you up in front of the mansion, from which you have a full view of the winter garden and mount of pleasure, that has no equal in Victoria's dominions, or perhaps any other country. By a covered yew walk, you enter the garden, and figure to your mind's eye an old, bushy yew that had been growing for centuries before its removal to its present site twenty years ago, forming now a beautiful, artificially-clipped arbor, fifteen feet square and twenty feet high, perfect every inch, not a branch or twig out of place (except a morsel of a new variety, or sport scrupulously reserved for multiplication), surmounted by two peacocks formed on the top of each other, and over them two rings, all made with the shears; and perhaps the whole cost as much as some of the fine architectural churches of our city.

The Irish Yew stands in regimental phalanx, about eight feet high, grafted with the Golden Yew, formed into crowns, and shining in the sun with dazzling splendor. The Swedish and Irish Junipers make boundaries of various tints of green, and are worked up into masses, creating variegations of foliage, habit, and shape, by contrast of color, and the disposition of plants. The prevailing characters

produced a *parterre* with colors so contrasted as to rivet the eye; this was readily accomplished by every imaginable shade, even surpassing any floral arrangement.

For example, take a half circle or crescent, and plant the disk with dark, upright, sombre Yew or Juniper, and the concave with variegated plants such as Periwinkle, Thyme, and Santolina; you will have at once a winter bouquet. I give you the outline, and leave you and your readers to form the picture. The gilding of the statuary—to me, questionable taste—the elaborate work of the baskets surrounding some cherished novelty, the feathered declivity of the embankments, the terraces, and the slopes, the plains and the mounts, circular and square, oval and angular, all exhibit an artistic skill fascinating in the extreme. "What is this surrounded with such beautiful wicker-work?" "Libocedrus chiliensis; a great acquisition; it looks like a Silver Arbor-vitæa." "Oh yes, you may call it Thuja Chiliensis." "There is another exquisite plant!" "That is Biota aurea." "Ah! very like a Thuja, too." "Yes, Thuja aurea." "What peculiar shaped Pine is that?" "A Douglas Fir." "Ah! you have been using the knife on it." "Yes, and on many others, freely. I exploded the idea that Evergreens will not bear pruning. Do it at the proper time, and judiciously; they are, with few exceptions, perfectly under control." "I thought Douglas Fir was an exception, and that it was only handsome from seed?" "Of all the magnificent specimens on the place, there are only about half a dozen of seedlings." "What is the object of those pieces of paper at regular distances along the top of that Yew hedge?" With a smile: "They are to cover the grafts of the Golden Yew that I put in a few days ago." "What! graft at this season of the year—July?" "All those trees have been grafted in the same way, by what, you know, is called herbaceous grafting, taking the soft young wood of this season's growth, and inserting it into the shoot of the same age on the stock, and they unite in a few hours!" *Make a note of that.*

From the east front of the house, the east avenue extends ten miles in a straight, uninterrupted view, which is not used as an entrance, but merely as a prospect. A walk of about thirty feet wide extends half a mile, or as far as the ha-ha; within this space, the majestic Horse-Chestnut has been replaced by the Araucaria, Cryptomeria, Taxodium sempervirens, Deodars, Cedars of Lebanon, and Picea pinsapo, disposed with a gracefully waved outline. As you enter this amazing vista, you have, on your right and left, specimens of Picea nobilis, each twelve feet high, and about the largest in England, of the most symmetrical form, and without a fault, surpassing in beauty the famed Araucaria excelsa (Norfolk Island Pine), and grown from cuttings planted out when only three inches high. Onward, are magnificent trees of Araucaria imbricata, thirty-five feet high, planted on mounds, and clothed to the ground with their distinct and unique foliage. These trees have been eighteen years planted, so that their average growth has been about two feet a year. Onward was the Cryptomeria, with its graceful, airy form, and pendulous branches, contrasting with the stiff habit and upright mien of the Araucaria. How grand, how expansive the view! What will those new features attain? Shall I see it again in twenty years!

To the left of this prospect, and entirely obscured by mounds and planting, is the tame sheet of water of 1831, now a magical lake, interspersed with islands, peninsulas, promontories, and steeps, of the most verdant grass, artificial rockwork, palisades, and geological formations, all having been brought many miles to adorn this magical spot, to which you are gently drawn by the musical whisperings of a secluded waterfall. In your search, you cast your eye on a view called the "Vista of Spondon," being a church, with its towering spire, three miles across the lake, forming the termination of this picturesque view. At your feet

is a beautiful boat with golden oars, in which we paddled from island to island, viewing and comparing the growth of trees, the formation of artificial rocks, and the design of the planter, where the towering Douglas and Norway Firs were flanked by our Hemlock Spruce, which makes an agreeable tree for rock and water scenes; its delicate foliage and drooping branches kissing the ripple of the silver lake, adding new charms to the scene; one of our most common trees luxuriating in those fairy isles with native splendor. Those trees were not planted on low *mud* islands, but on high, artificial hills, nearly every foot of which had cost a shilling to the spirited owner, whose great delight was to employ the poor in creating those objects of his fancy. His sole pleasure was planning, planting, and replanting—the cost rarely estimated; the question was, can it be done? On the margins and inlets of this romantic sheet of water, great effect is produced by the shades of foliage. The Austrian, Corsican, and Norway Pine, give dark shades; the Silver, Scotch, Bhotan, and Sabin Pines, give light shades, using the Deodar, on all occasions, for union of design; the Khutrow Cembran and Silver give green shades, with an occasional Yew, whose histories go back into other centuries, and give a tone of ancient and modern grandeur, which must be seen to be fully realized. On the south of the lake, and very near the mansion, is formed a grotto and fountain, where all the gems of dwarf evergreen-trees, lava, and rocks, are collected, and rather systematically arranged, which appears to have been the prevailing taste of his Lordship. How wonderful are the productions of the vegetable kingdom! it can only be realized in collections thus brought together.

We have been admiring the rapid growth of many of the firs and pines, frequently exceeding five feet in a season. What are we now to say of those miniature affairs, such as Abies clanbrasiliana; those Pigmy and Hudson Firs, some of which were twenty years old, and had not attained the height of as many inches. The view from this point across the lake, was on the artificial ruins of an old castle, composed of rocks, pieces of buildings, tufa and limestone formations, covered with ivy and wild flowers, all erected within a few years, and appearing as having stood for ages on a spot that was a low meadow as late as 1831. All the walks in the vicinity of this lake, and, indeed, for miles, were asphalted, by taking four parts of clean gravel, and one part of quicklime, and gas tar sufficient to make the whole of the consistency of mortar; this was heated on plates of iron, and laid down whilst hot about two inches thick, and has become as hard as marble.

So much was I absorbed with what I could barely realize to be real, that 10½ o'clock of the night found me under the soft silver beams of the moon, still enjoying those magical scenes, where I had seen but yesterday, comparatively, the muddy pool skirting the field of the mower. I retired to rest, but found none for my excited imagination. The early dawn (2½ o'clock) found me alone amidst the golden-crowned Yews of the winter garden; not altogether alone, I found, for there followed me the silent watchman of the night, who has trod the rounds for seventeen years, amongst those, to him, no doubt, monotonous scenes.

The thorough secret of the successful growth of all I have seen, consists in a complete system of under-drainage, the ground being so level the main drain had to be extended one and a half miles in a direct line. All the leading trees are planted on mounds of earth. No tree was too large to remove, and none too small to plant; every power and facility was on the spot; all fibrous roots, on removal, were securely protected; copious waterings were given; strong stays of No. 8 wire were fixed from the ground to various parts of the tree, to prevent its being displaced after planting; evergreens were successfully removed at all times, but preference given just before their growth. Even a Yew that had stood

for three hundred years, was brought from a distance, and, the second year after removal, made a luxuriant growth. Another striking fact, was planting the best that could be got; from three inches to three feet was the general height of all those now unique specimens of rare Evergreens. Seedlings, cuttings, layers, and grafts, all were alike acceptable; if they were not of the proper form, the knife was freely applied to either root or branch. Where roots had been confined in pots before planting, they were washed from the old soil, carefully extended, fresh soil placed amongst them, freely watered a few times, and success was the result; experience proved this to be the true plan, for the roots, as grown in the pots,

take the screw form, and, when planted a few years, tend actually to grow the tree out of the ground, and, in a few years more, a storm prostates the specimen by the tendency of the screw throwing it upwards. The most critical judges cannot now decide whether the tree was originally a cutting layer or graft.

The whole energies of means and art have not been entirely directed, during the time, to the grand achievement of an evergreen pleasure-ground and winter garden. There is a fruit and vegetable garden, with graperies, peach-houses, forcing-houses, pine-pits, hot and cold walls, and all their accompaniments, kept in corresponding order, flourishing and fruitful; but these are every-day affairs. The achievements in the grounds, and the planting, their growth and keeping, in the short space of twenty years, have no precedent in modern landscape gardening. The place viewed now (in 1857) will be found densely covered; the growth has been exuberant; the trees and shrubs having, for effect, been planted thick, they are constantly engaged in removing, to clothe other grounds, their present owner being still desirous to keep up and protect the character of the place, which is now generally appreciated by the privilege granted and previously alluded to. One beautiful fact connected with the establishment is, that the lord and the laborer are all advocates of the temperance cause, giving a comfort to all the cottages, families, and people of the place.

# SPRING.

BY W., NEW YORK.

WHAT a magic word! How we delight to anticipate thy coming through the long and dreary winter months! We have awaited thee with anxiety. Thou art here at last. We salute thee, we bid thee welcome. Thou comest to infuse joy and gladness into every heart. Thou art the harbinger of many good things in embryo. Thou comest decked and adorned like a youthful maiden, with floral beauties entwined about thee. All nature rejoices. The feathered songsters are glad; they sing with sweeter notes; they delight to bask in thy genial warmth; in harmony and love they select their mates, and build their little nests together; they toil and care for their young, showing all the maternal fondness that is possible for a kind and tender parent to exhibit. Shall man—intellectual man—fail to profit by their example? We trust not. Thou infusest new life and vigor in the vegetable kingdom. Everything therein bids thee welcome, and puts on a gladsome appearance at thy approach; even the emerald turf is made to smile and greet thee; even the aquatic animals rejoice and sing thy praise.

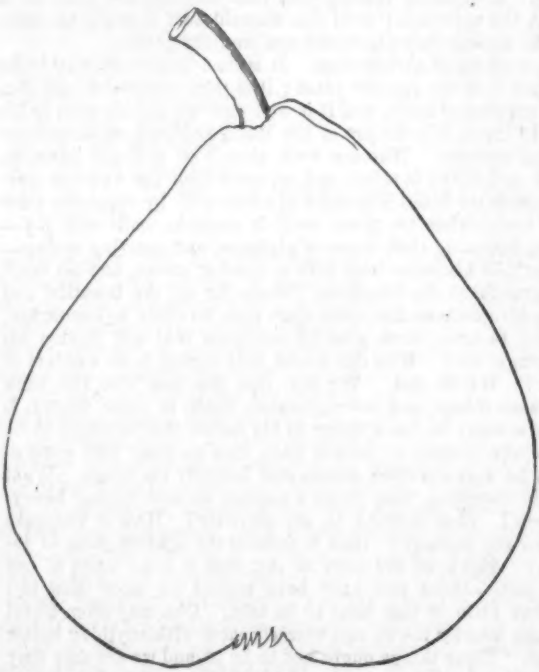
Spring, like youth, is a season of anticipation. It is then that everything looks charming and lovely; it is then we lay our plans; it is then that we should dig, plant, and delve. We anticipate much, and it is well that we do, for what is life without anticipation. In truth, it is the joy of life itself, although we often anticipate much that is never realized. Who can walk abroad on a lovely morning, in May, when every tree and shrub is robed and adorned with the wedding garment of floral beauty—when the sense is greeted at every turn by vegetable odor of the most enchanting kind—when the grass itself is made to smile with joy—when the very insects are humming their notes of gladness, and greeting spring—we say who can, and not feel his pulse beat with a quicker stroke, and his heart leap with joy, and feel grateful to the beneficent *Creator* for all the beautiful and lovely things that He in his goodness bestowed upon man, to cheer, to encourage, to gladden his heart, and to bring forth grateful emotions that will lighten his labor in his journey through life? Who can doubt that spring is an emblem of eternal joy and felicity? We do not. We say, that the man who can walk abroad and behold all these things, and not appreciate them, in some degree, is unworthy of being called a man; he has a defect in his nature that he ought to be sorry for. How kind of the *Creator* to bestow upon man so many rare gems of floral beauty with which he may *embellish*, adorn, and beautify his home. What more lovely, when one is travelling, than to see a cottage nestled among honeysuckles and climbing roses? How inviting to the traveller! How it bespeaks intelligence and virtue for the inmates! How it denotes the abiding-place of industry and contentment! Alas! we are sorry to say, that in some parts of our country—even the old parts—those that have been settled for more than two hundred years, there is but little of this taste to be seen. One may often travel a whole day in some of the interior towns, and scarcely meet with anything better than a common May rose. These things ought not to be so, and we are sure they will not long remain; plenty of good examples exist in various parts of the country, and fashion is fast doing the work; nothing can long withstand her sway, as it is generally irresistible. In a few years, it will be as rare to see a cottage without honeysuckles and climbing roses as it is now rare to see old-fashioned short pants and long stockings.

# PEARS.

BY HON. M. P. WILDER, BOSTON, MASS.

MR. EDITOR: In fulfilment of my promise, I annex descriptions of a few modern pears, which promise to be worthy of extensive cultivation. Although we are indebted to Europe for many of our best fruits, and, by a judicious selection, shall continue to add other fine kinds to our catalogues, yet it is to the production of new kinds from seed that I especially look for those adapted to our soils and climate. Whatever may have been the disappointment of foreign cultivators in this branch of pomology, there can no longer be a doubt as to its success in America. Excuse this digression, and upon which topic I may address you hereafter.

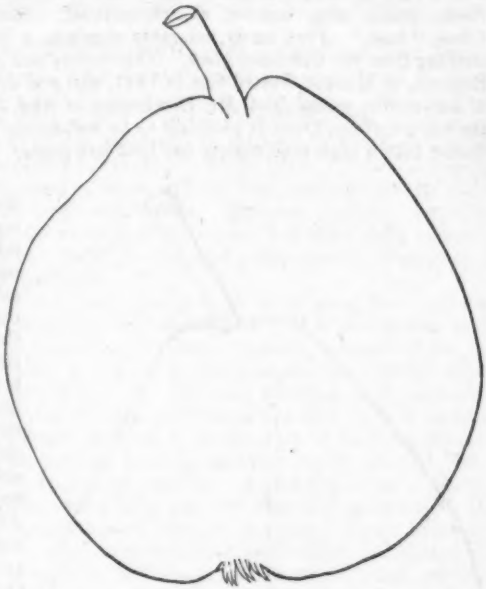
CALEBASSE DELVIGNE.—*Size*, large, about three and one-fourth inches long by three inches broad. *Form*, obovate, obtuse-pyriform, broad at the base, tapering gradually towards the stem. *Stem*, three-fourths to one inch in length, fleshy, inserted in a slight cavity. *Calyx*, rather small, set in a shallow, irregular, wide basin. *Skin*, green, a little rough, dotted, and flecked with russet, and tinged with crimson on the sunny side. *Flesh*, yellowish-white, buttery, and melting. *Flavor*, sweetish, pleasantly perfumed. *Season*, October, but may be prolonged for some weeks. *Class*, "very good." *Tree*, vigorous and productive. *Growth*, upright. *Shoots*, erect and stout. Succeeds well either on the pear or quince stock. This variety was imported from France ten or twelve years since, and being of foreign origin, it is somewhat singular that it has thus far had no synonym.



Calebasse Delvigne.

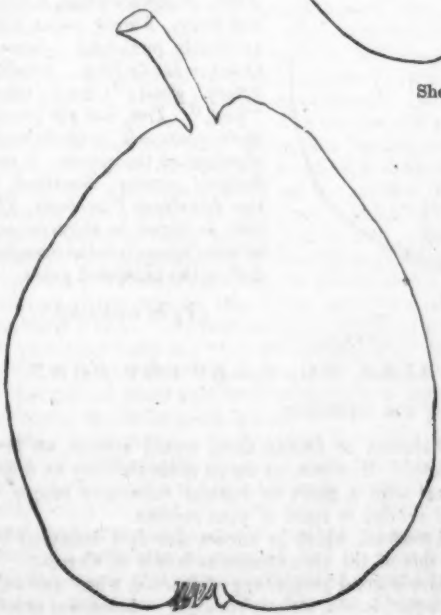
SHEPHARD'S SEEDLING.—*Size*, large, or very large. *Form*, obtuse-pyriform, varying from that of the Beurre Diel to the Bartlett. *Calyx*, closed, set in

coarsely-plaited basin, nearly even with the base of the fruit. *Stem*, short, sometimes scarcely rising above the apex, inserted in a small, wrinkled cavity. *Skin*, green, coarsely dotted, and with some splashes of russet, especially at the stem and calyx, dull yellow at maturity, and frequently marked with brownish-red cheek. *Flesh*, yellowish-white, melting and juicy, a little granular at the core. *Flavor*, rich, with slight astringency, resembling that of the Beurre Diel. *Seeds*, small, light brown. *Quality*,



Shephard's Seedling.

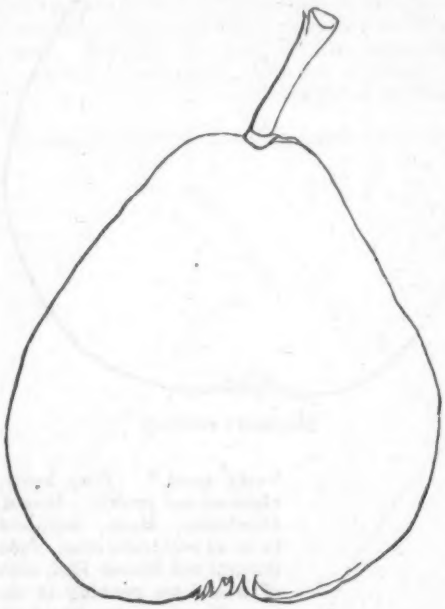
"very good." *Tree*, hardy, vigorous and prolific. *Origin*, Dorchester, Mass., supposed to be an accidental cross of the Bartlett and Beurre Diel, both of which are growing in the grounds where the Shephard was raised.



Emile d'Heyst.

EMILE D'HEYST. — *Size*, above medium, sometimes large. *Form*, obtuse-pyriform, outline irregular, surface a little uneven and knobby. *Calyx*, closed, set in a ribbed cavity. *Stem*, rather stout and short, planted with little or no depression. *Color*, dull green, becoming yellowish at maturity, covered with dots and traces of russet, and occasionally reddened on the side next the sun. *Flesh*, yellowish-white, melting and juicy. *Flavor*, rich, saccharine, not sweet,

with a very agreeable, piquant, vinous flavor, resembling the Beurre d'Aremberg. *Seeds*, small, long, narrow, sharply-pointed. *Season*, October to November. *Class*, "best." *Tree*, hardy, tolerably vigorous, a little thorny, and manifestly a seedling from the Calebasse class. This variety was produced from seed by Major Esperen, of Malines, fruited first in 1847, and was dedicated to "Emile," the son of our worthy pomologist, Mr. Berckmans, of New Jersey. Its bearing qualities are not ascertained, but it promises to be sufficiently productive, and will, without doubt, take a high rank among our best late pears.



Buerre Kennes.

BEURRE KENNES.—*Size*, medium. *Form*, pyriform, inclining to turbinate; some specimens much flattened at the poles. *Calyx*, sunk in a moderately deep cavity. *Stem*, about one inch in length, planted on the apex, sometimes in a fleshy ring or protuberance. *Color*, brownish-green, clouded with a gauze-like covering of russet, stippled with red and gray dots; at maturity, yellowish, suffused with a mixture of brown and crimson on the sunny side. *Flesh*, yellowish-white, melting and juicy. *Flavor*, sweet, rich, agreeably perfumed. *Season*, October 1st to 15th. *Quality*, "very good;" may prove "best." *Tree*, not yet proved on the pear stock, but sufficiently vigorous on the quince. A new Belgian variety, described in the *Annales de Pomologie*. The fruit is borne in clusters, and adheres strongly to the branches during the autumnal gales.

(*To be continued.*)

## GARDEN VEGETABLES, NO. 5.—SWEET CORN.

BY WM. CHORLTON.

To write anything on the cultivation of Indian Corn would appear, on first consideration, like a waste of words. However, as we so often see only an indifferent quality, and so seldom meet with a good or regular successive supply, a little talk respecting it may be of service to some of your readers.

Here we have a true Native American, which is known amongst botanists by the cognomen, *Zea Mays*, and is one of the very numerous family of Cereals.

Corn, in general, will always give a good percentage of interest when well cultivated, and Sweet Corn, in particular, is not, strictly speaking, wholesome, unless it has a supply in the soil of the required ingredients for the formation of a perfect

structure. With this, a good cook, and well-worked base, we may throw to the winds the physician's advice with regard to the avoiding the use of Green Corn during cholera times.

Like all other vegetables, this is the better with good drainage and deep tillage. A well-broken, strong, but friable, fresh loam, in which is a due deposit of vegetable matter, phosphate of lime, and ammoniacal salts, is the best. Where there is a deficiency of any, or all of these, it will always be found that the addition of vegetable matter, bone dust, or guano, separately or collectively, will have a great influence on the productiveness and better quality of the grain. Every housewife knows the difference in the cooking of ill or well-fed beef, and how far the want of proper food makes the flesh tough and fibrous. The same applies to the esculent which we are discussing; for, according to the supply of constituent elements during growth, so will the seeds shrink in boiling for the want of substance, or swell up to distension by a redundancy.

If the seeds of Corn are planted in the open ground before some solar heat has been diffused into it, they are subject to rot; consequently, it is best to wait until the opportune time. In this latitude—40°—this generally happens about the middle of April. Further south, it will be earlier, and north, somewhat later, according to distance or sheltered locality. We may, however, gain something like ten days or two weeks, by planting a portion for the first crop in shallow boxes under glass. In my present position, it is necessary to have an uninterrupted supply, commencing as early as possible, and continuing on until frost. Being so, it may be well to record my own practice. At the beginning of March, a number of rough boxes (three inches deep) are part filled with good earth; the seeds are laid on this four inches apart, and covered one inch. These boxes are placed in a glass house where a night temperature of some 50° is maintained, or, in lieu of such convenience, then, in a cold frame, the glasses of which are kept closed at all times until the sprouts appear above ground; they are also covered with mats, at night, to make secure against frost. Air is afterwards given during the middle part of all warm days, and, when there is no further fear of frost occurring, the earth in the boxes is cut into square patches, each containing four young plants. These are planted out four feet apart, in a sheltered situation. For the next succession, the seeds are planted on the ground level, at the same distance, after making an even surface to lay them on, and afterwards covered two inches. This process forms so many small mounds, and somewhat prevents the tendency to decay, as the immediate soil is thereby rendered drier than it otherwise would be. Throughout the summer, up to the middle of July, other plantings are put in, at intervals of ten days or two weeks, two inches deep, below the surface, and the soil filled in level. By this method, a supply of well-filled young Corn is obtained for gathering every day, from the beginning or middle of July, according to the earliness or lateness of the season, until frost occurs in the fall, and for some time afterwards, as, when such is apprehended, a quantity is gathered, and laid in a dry room, the husks being left on.

Sweet Corn may also be preserved for winter use. For this purpose, when the seeds are a trifle part in the milky state, but not quite ripe, strip off the heads with the husks on, loosen the latter so as to admit the air freely to the seeds, and hang them over a line, in a dry room, until all the moisture is evaporated. The apartment must be very dry, however, or they will become mouldy and worthless. Afterwards the husks may be removed, and the cobs laid by until wanted.

There are several varieties known as Sweet Corn, each possessing more or less of good or indifferent quality. The best which I have so far been able to obtain, was under the name of

*Twelve Rowed.* This is rather short and small in the cob, averaging from twelve to sixteen rows, with deep and not large seeds, very sweet, fleshy, of a light yellow color when cooked, and a good bearer.

*Stowell's Evergreen* is a good and prolific kind, averaging twelve to sixteen rows, but not equal to the above.

*Large Connecticut* has eight rows, with very large seeds. Flavor only second quality.

*Early Tuscarora.* This is one of the best of the early sorts. There is, however, no other good property to recommend it.

*Early Golden Canada*, and *Smith's Early White.* These are very early kinds, but small, and not good flavored.

When the intention is the saving of seed, the best plants of a pure breed ought only to be chosen, and no other variety should be allowed to blossom in the same garden, unless very far remote; as there is, perhaps, no other class of plants which will more readily fertilize with each other. The abundant anthers, or male organs (Tassel), are profuse of pollen, which is distributed to a considerable distance by the slightest breeze; and the stigmas, or female parts (Silk), present a great surface to be acted upon, the consequence of which is a probable deterioration, if an inferior root be in the vicinity, and in flower at the same time. In connection with this, some persons remove the small and bottom side suckers, which only bear the tassel on the tops, thinking thereby that the plant is strengthened. I have, by way of experiment, at different times, tried both the leaving on and removal of these suckers, and always find that the seeds are more equally filled, and the heads better formed, when they have been left to blossom. This, in theory, would appear reasonable, on account of the extra amount of pollen which is in close proximity to the silk; and, practically, it is the case.

As the tops are greedily eaten by cattle, it has been advised to cut them above the ears after flowering. I have always observed, that when this has been done before being fit for use, the sweetness is reduced. It may, however, be practised with economy after this period.

*To cook Sweet Corn*, trim off the husks, and immerse in boiling water, with a little salt. Boil gently half an hour; then take out the cobs, rub over some butter, pepper, and salt, and brown before a quick fire. Another plan, and one which most persons prefer, is to boil as above; afterwards, cut off the Corn neatly, return to a pan containing a sufficient quantity of milk to cover, throw in a tablespoonful of butter, the same of sugar and salt, to flavor, simmer slowly for fifteen minutes, and serve up hot.

## THE MAGNOLIA.

BY J. P. KIRTLAND, M. D., PROF. OF CLEVELAND MEDICAL COLLEGE, OHIO.

THE hardy species of Magnolia are among the handsomest ornaments which can be introduced into our lawns. Their infrequency in such localities, and the sickly aspect they too often present when under the hand of cultivation, have led to the belief that their propagation and management are attended with great difficulty.

This difficulty is, however, rather apparent than real, or, at least, is of sufficient magnitude merely to induce the cultivator to place a correct estimate on the value of articles which have required extra care. As much intrinsic beauty is perhaps possessed by the Bouncing Bet (*Saponaria*) and the Calystegia pubescens, as by the Alstromerias; yet the two former, infesting our grounds as noxious weeds,

are considered as troublesome intruders, while the latter, requiring the skill of an experienced gardener, are valued accordingly. Vegetation springing up spontaneously, flourishing by our neglect, will always be viewed as common, and unworthy of admiration.

The locality in which our experience with the Magnolia has been gained, is fully exposed to the North, and the influences of Lake Erie, between the 41° and 42° of north latitude. Our observations have been made upon the following species and varieties, "to wit:" acuminata, glauca, tripetela, purpurea, Soulangeana, Thompsonii, and conspicua. All of these endure our climate as well as the oak, and several of them, under my mode of propagating them, are attaining the size and form of trees, though the natural tendency of the climate is to dwarf them. Even the Soulangeana, which, Mr. Meehan says, can be hardly ranked as a tree, has reached the height of fourteen feet (inclusive of four feet of the stock) in the course of twelve years. To the foregoing list, we might probably have added the macrophylla, auriculata, and cordata, had we been able to obtain them, and submit them to a course of trial.

The secret of our success consists mainly in propagating them on a hardy and vigorous stock, which will supply them with a greater amount of nutrition than most of the above species can derive from their native roots. In this vicinity, the acuminata is indigenous, and is distinguished by its vigorous habits and tenacity of life. It furnishes all the essential requisites for a stock on which to propagate the other kinds. This stock imparts both vigor and hardiness to the grafts, to an extent which, in some instances, converts them from a sickly and dwarf shrub to a middle-sized, vigorous, and durable tree. This has been illustrated very satisfactorily in my grounds, by the M. glauca. In near contiguity stand two of this species; one, on its own roots—the other, on the acuminate stock. The first was produced from seeds sown in the autumn of the year 1842; the latter was cut from the first, and engrafted upon a stock of the acuminata, in the spring of 1846 or 1847. A careful measurement at this date (January 1, 1857), shows the height of the seedling to be six feet and six inches, and the circumference of its body six and one-half inches, while its engrafted progeny is fourteen feet high, and the circumference of its body is nineteen inches. The former seemed to attain its full development several years since, and, of late, expends its powers in sending off lateral branches and suckers. At best, it is only a weak, ill-shapen, and diminutive shrub; its foliage, during summer, small and shallow, and its blossoms sparse and imperfect. The latter is still a thrifty tree, annually extending a round and well-formed top, with its foliage large and rich-colored, and its succession of flowers for several weeks numbering by hundreds every season.

The PURPUREA and THOMPSONII are as much improved by the aid of the acuminata stock.

The *tripetela* grows thriftily, for a few years, on its own roots, and then inclines to die down to the ground. We have recently engrafted it upon the acuminata, where it seems to flourish and give promise of durability.

Our plants of the conspicua and Soulangeana, on their own roots, died some years since, but not until we had secured both kinds by engrafting. Their premature deaths preclude our making a comparison between them and their engrafted progeny.

Of the latter, we have some fine specimens. One of our *conspicua* presents a very uniform, round head, fourteen feet high. Its body girths, twenty-one inches. The graft was inserted in the year 1846. All of my trees of the conspicua and Soulangeana, promise an abundant bloom the ensuing spring, as every limb and spur are terminated with blossom buds. They never suffer injury from the cold

of our winters; even the last winter did not affect them, and it is rarely the case that they are cut off by late vernal frosts. Two years since, a snow storm occurred after they had fully expanded, and of course impaired their beauty. Such an event is rare. The blasting impression of a cold and dry northeasterly wind, is more to be dreaded.

As their bloom appears before their leaves, and at a period when nature generally presents a wintry aspect, it is important to group them with evergreens.

At the time when their blossoms are fully opened, the heads of the trees appear, at a distance, as though they were invested in a mantle of pure white, and attract the attention of the public universally.

The inscription—"Alas! poor Yorick!"—could not have been reiterated oftener, and with more varied accents, by wayfarers, in passing his grave, than we hear the notes of admiration uttered daily during the flowering season of the Magnolias. "How beautiful! how charming! what can those be?" are the varied exclamations of the travelling portions of the community.

In our next article, we shall treat on the modes of propagating and engrafting the acuminata.

## BICTON PINE STRAWBERRY.*

This very showy berry is a desirable acquisition where a variety are cultivated; either by itself, or interspersed with the scarlets, it is highly ornamental, and deserves, also, for its other merits and size, to be in every collection. It is a foreign variety, received at first as not hardy, but time has shown that, with moderate protection, it may be wintered anywhere, and bear a fair crop of large, handsome berries, having an agreeable, musky aroma.

Large, roundish, pale flesh color, with a reddish tinge on the sunny side; fragrant, and tolerably high flavored. A moderate bearer. It is the largest and finest white Strawberry yet known. Flowers, hermaphrodite.

## EVERGREENS.

BY JOHN SAUL, WASHINGTON, D. C.

The lovers of fine Evergreens will long remember the severe tests their favorites were put through the past winter (1855–6), which, for severity, was without a parallel. It may be safely said, that the plant or tree—whichever it may be—that passed safely through such a degree of cold, in any given latitude, may there be considered hardy; but I would not say that every plant destroyed was tender where that destruction took place. Many rare evergreens, when first introduced, are grown rapidly and tenderly, in pits or greenhouses, and, when planted out permanently, the ground is well prepared as regards trenching, adding good composts, &c. As a consequence, the plants grow rapidly, and, late in the season, the wood is soft, watery, and immature; and, when winter's icy hand is upon them, can we wonder if they wither within his grasp and die? Yes, thousands of comparatively hardy plants are lost annually in this way, and, had we not known better, they would be pronounced tender. If people will grow those things vigorously and rapidly, they must protect them until they are of good size, and well established. Still, it is well, occasionally, to have such a winter as the last, as it tests what aspires to be hardy.

*Cryptomeria japonica.*—Well may this be called the prince of Evergreens, such

* See Frontispiece.

is its beauty and extreme gracefulness. It has no superior, and I question much if it has an equal in the whole range of hardy Evergreens! Don't be startled, reader. I except none! No, not even the beautiful Hemlock, the handsome Norway Spruce, or the graceful Deodara! Where is the person who ever read Mr. Fortune's description of this beautiful tree in the northern provinces of China, and did not wish for the time when we should have such specimens among us? yes, when it should be scattered broadly and widely over the country as our commonest Evergreen, the Hemlock or Norway Spruce; and I risk nothing in saying that, before many years, it will be planted more extensively than any other. Some suppose it to be rather tender, for the reason that many young plants are annually destroyed; plants that have grown vigorously and very late, with watery shoots, are and will be killed. I have lost some of this description, the past winter, myself. I have seen such plants injured by the early frosts of October. In this city, are some three or four specimens of this plant, which have been planted about five years; they are now of considerable height. The past severe winter, they received not the slightest protection, though in very exposed situations, and where the thermometer must have been from ten to twelve degrees below zero; yet, not a branch nor a leaf was injured by cold, and, when the winter was over, no Evergreen looked better, not excepting the Hemlock or the Norway. How comes it that these plants have done so well? Why, simply from the fact that the wood is well-matured every autumn—that great requisite in fruit-trees, and quite as much in Evergreens. The part of China from whence this comes, has a climate as severe in winter as our Northern States; indeed, it is well-known that the climate of China more nearly resembles that of the United States than any other, and plants from that country do much better here than in Europe (such as Salisburia, Wigelia, Forsythia, Wistaria, Magnolia, and many others), and why not our beautiful Cryptomeria?

*Araucaria imbricata.*—Many good specimens of this exquisite Evergreen stood about this city for the past five years, but the cold of last winter levelled all to the snow-line save one, and that was the largest and strongest plant of all; the foliage and some of the branches were injured, but it pushed out nicely all over the plant. Now, how comes it that this plant survived, when all others were destroyed? It was not situation, for it stands in one of the coldest points about the city. It was its age and strength which enabled it to weather so many degrees of frost, for it received no protection like the cryptomeria. When the plant attains age, has firm, well-matured wood, and short-jointed, well-ripened shoots, it will endure many degrees more cold.

*Cedrus deodara.*—The graceful and beautiful Himalayan Cedar suffered considerably. Many large and magnificent plants were killed to the snow-line, whilst many others passed safely through this intense cold; the cause of this difference was the same as in the other Evergreens. When the ground had been highly prepared, and the plants were growing vigorously, they, suffered most; on the other hand, plants of more moderate growth, with well-matured shoots, escaped unhurt. It may be considered hardy in this latitude, save in such winters as 1855–6, when the loss of some rapid growing young plants may be expected; but surely, because a few plants are occasionally lost, people will not give up growing this exquisite Evergreen?

*Cedrus Libani*, Cedar of Lebanon.—Generally, this has stood well with us, though there are instances of one or two good, vigorous young specimens being destroyed; the cause the same as the Evergreens already noticed. Established specimens, with well matured wood, stood well. It may be considered as hardy in this latitude.

*Cupressus macrocarpa*, or Lambertiana.—What a pity this magnificent California Evergreen is not hardy! A plant stood out here some three or four winters, and, though well covered up, was more or less injured each winter until the past, when it was totally destroyed. It is a very rapid grower, throwing out horizontal branches similar to the Cedar of Lebanon, and is of a deep, rich green. Planters in the South, should not overlook this beautiful Evergreen.

*Taxodium sempervirens*, Redwood of California.—This is an enormous tree in California, and a very beautiful one. It is a very rapid grower. Many good specimens of it stood out here for some four or five winters, during which it was slightly injured, until the last, when they were totally destroyed, save one. This was the largest, and had its top and all the side branches destroyed, but has since grown out finely. It received no protection. This is another illustration of what plants will stand when they attain age. Persons should well protect all these valuable Evergreens until they attain a considerable size; after which the majority will grow well.

*Abies Smithiana, or Morinda*, Weeping Himalayan Spruce.—This very beautiful Spruce has proved quite hardy in every situation in which I have seen it tried, without the slightest protection; not even were the leaves browned, but it retained its deep green hue through and after the coldest weather. Planters should not lose sight of this exquisite Evergreen. It is a deeper green than the Norway, the branches droop most gracefully, and is a rapid grower.

*Abies Menziesii*, Menzies' Spruce.—This very distinct species has proved perfectly hardy in this region as well as farther north; this, however, may be expected from the high latitude whence it comes on our northwestern coast. Though not as graceful as some other species, it is very distinct and striking. The foliage has a pretty glaucus hue, and all lovers of Conifers should plant it.

*Abies Douglasii*, Douglas' Spruce.—This noble tree is scattered over a considerable portion of our western coast; whilst it is found low down, mixed, in forests, among Taxodium sempervirens, it is also found at considerable altitudes. Its range of latitude on the Rocky Mountains is also considerable. It is described by all travellers as one of the most beautiful trees in nature, feathered with branches from base to summit; its branches are gracefully pendent, which impart to it a light and elegant appearance. Though not cultivated many years, many fine specimens are to be found in various parts of Britain, it having proved a very rapid grower. In this latitude, it has proved hardy, having passed uninjured through the past severe winter without the slightest protection. This beautiful tree deserves the attention of planters, for not only is it hardy, but a rapid grower, and one of the most graceful and beautiful of the Abies or Spruces.

*Picea cephalonica*, Cephalonian Silver Fir.—Where the Araucaria imbricata is tender, this will be found the best substitute for it, partaking somewhat of its character. It has now been proved one of our hardiest Piceas; it is, however, a slow grower, which to some may appear to detract from its other good qualities. The cultivator of good Evergreens cannot, however, pass it by, as its unique and beautiful appearance is desirable in the smallest collection.

*Pinus excelsa*, Bhotan Pine.—Botanically speaking, this Pine is closely allied to the White Pine of the States (*Pinus Strobus*); it is, however, much the most beautiful tree, has longer and more graceful foliage, and more glaucus. It is also a rapid grower, and perfectly hardy. This magnificent tree I consider the best of the really hardy Pines.

*Taxus baccata hibernica*, Irish Yew.—The late Mr. Loudon said this was the best hardy cemetery tree for England, and it is quite as invaluable here. The beauty of the Oriental Cypress (*Cupressus sempervirens*), as well as its adapta-

bility to cemeteries, is well known, but in no region of the United States, where the thermometer will sink 20° below freezing point, can this tree be grown; hence we must find a hardier substitute, and this we possess in the Irish Yew. During this severe winter, all established plants stood well, losing only a portion of the foliage and outer branches, but speedily shooting out again. It is one of the most erect growing trees, of a deep, sombre green, and in keeping with all sculptural and architectural objects.

*Taxus baccata*, English Yew.—Why is not this valuable Evergreen more generally grown? About this city, it grows as rapidly and beautifully as in England, withstands our severest cold without the slightest protection, and is in every way desirable and beautiful. I would therefore urge strongly its more frequent planting.

*Magnolia grandiflora.*—Of all the broad-leaved Evergreens, this is unquestionably the finest, being immeasurably in advance of the fine English Laurels, Portugal Laurels, &c., in foliage; forms a nobler and more stately tree; and to these fine qualities add its superlatively beautiful flowers. All large, well-established plants passed safely over our severe winter, and many bloomed finely the past summer; in most instances, however, they lost their foliage, and where plants were young, and grown vigorously, they were considerably injured. It may, however, be taken as a rule, that established plants, with well-matured wood, will sustain 10° below zero without injury.

*English and Portugal Laurels.*—Our ordinary winters, both these beautiful Evergreens will stand with impunity, but such a winter as the past (1855–6), they are levelled to the snow-line, which, from their beauty, is much to be regretted; they should, however, be cultivated extensively South, which their beauty richly merits.—*Nov.* 1856.

## SEASONABLE HINTS.

BY THE LATE A. J. DOWNING.

If you wish to raise the earliest vegetables, or get the best growth possible in any annual plant, be sure to use well rotted manure. The chemists may say what they please about the loss of ammonia and the gases, and what they say about the actual waste in letting manure rot before using it, is true enough, doubtless; but, setting that aside, practice has told me, time and again, that I can get a crop of peas four or five days earlier than my neighbors, in the same soil, by using manure a year old, and *quite fine*, when they use it almost as fresh as when it first comes from the stable. The fact is, fresh manure is like corned beef and cabbage—very hearty food, but requiring a strong stomach. Annuals of moderate growth, like something easier of digestion. As all old gardeners know this by constant trial, you can no more beat the value of rotted manure out of their heads than you can make an elder bush bear white berries by scolding it.

It is quite wonderful what a passion some men have for what *they* call *pruning* trees, and what I call murdering them by inches. Only put a knife or saw into their hands, and a tree before them, and you will see that it is only because they were not born Caliphs of Bagdad, that their neighbors have any heads left on their shoulders. Gardeners from the "auld countrie"—especially all such as have served their time behind a wheel-barrow, are mighty fond of this sort of thing. One of these "gintlemen" was lopping off and utterly despoiling the natural ways of a fine linden-tree lately. When he was cross-questioned a little as to what he was about, ruining the tree in that manner, he replied: "Bless yer sowl! I'm only a littin' the *hair* intil it!" But, in fact, many a better gardener than this Paddy

—many a man who has done as good things in the gardening way in Great Britain as can be done anywhere in the world—is placed in the same awkward fix when he comes into a country with a dry, hot climate like the United States. All his life-long has he been busy learning how to "let the air in" to the top, and keep the wet away from the roots, till it is a second nature to him, and he finds it almost as impossible to adopt just the contrary practice when he gets to America as it is for a Polar bear to lay aside his long, white, furry coat, and walk about like a tropical gentleman in his natural nankeen pantaloons and waistcoat. He cuts away at his trees to let in the sun, and raises up his flower-beds to drain off the wet, when it is just the very sun and drought that we have too much of. No man can be a good gardener who will not listen to reason, and in a country where nature evidently meant leaves for umbrellas, take care how you snap your fingers at her, by pruning without mercy, and "*littin' the hair in!*"

If you find some of your transplanted trees flagging, and looking as if they were going to say good-by to you, don't imagine you can save them by pouring manure water about their roots. You might as well give a man nearly dead with debility and starvation, as much plum-pudding as he could make a hearty meal of. The best thing you can do is, first to reduce the top a little more (or a good deal more if needful), for the difficulty most probably is, that we have more top to exhaust than root to supply. Then loosen the soil, and water it if dry, and lastly, *mulch* the ground as far as the roots extend. This you may do by covering it with three or four inches of straw, litter, tan-bark, or something of that sort, to keep the roots cool and moist, so as to coax them into new growth. Watering a transplanted tree every day, and letting the surface dry hard with the sun and wind, is too much like basting a joint of meat before the kitchen fire, to be looked upon as decent treatment for anything living. If your tree is something rare and curious, that you are afraid will die, and would not lose for the world, and yet that won't start out, in spite of all your wishes, syringe the bark once every night after sunset. This will freshen it, and make the dormant buds shoot out.

If you find any of your fruit-trees barren, from too great running to wood, about the first of June is the time to shorten back the long shoots, and clip or pinch off the ends of the side shoots, so as to force the tree to expend its substance in making fruit buds, instead of wasting every bit of sap in overgrowth.

Make war upon insects all this month, and especially at the end of it, as if it were the chief duty of man to destroy them (there is no doubt about its being the chief duty of the gardener). Tobacco water is your main weapon, and with a syringe or a hand-engine, you can, if you take them in time, carry such slaughter into the enemy's camp as would alarm the peace society, if there is one among these creeping things. Slugs on rose bushes, or the green fly on plants, will make their appearance by thousands and tens of thousands, as the weather gets hot, and the nights summery. The time to open your light artillery upon the "inemy," is very early in the morning, or just after sun-down—the latter the better time, by all odds. Find out whether they "roost" on the under or upper side of the leaves, or nibble away at the tender points of the shoots, and shower them to the tune of "Old Virginny"—*i. e.*, strong tobacco water. If your plant is of a delicate substance, mind, however, that you don't give *it* a fainting fit as well as the vermin. Always make the tobacco water by mixing some rain water with it, for such plants, and, if you have had no experience in the matter, dilute and use some on a single plant before you undertake your whole border. After half a day, you can tell how it works, and act accordingly. What you want is, just strength enough to kill the insect, and not enough to injure the young leaves.

AN OLD DIGGER.

# GROUNDS FOR FARM HOUSES.

BY L. DURAND, DERBY, CONNECTICUT.

THE grounds which are about a farmer's dwelling are of more or less importance, and they should be studied and looked after by the farmer himself. The ordinary manner in which farmers look upon this subject is more a matter of indifference in regard to site or situation as will be more often seen by the choice they make in selecting their house lots. In laying out grounds for farm houses, no general rule perhaps can be given as to extent of land occupied; all will depend on circumstances, the amount of lands to be laid out, the expense of doing the work, &c. Every farm house should have some grounds around it appropriate to and with the style of the buildings which the farmer has adopted for his residence. At least an acre of land should be set off for this purpose, for the most moderate and least unpretending farm house in style and architecture, size, &c. And yet how often is it that we see farm houses set as near the highway as possible, while old rubbish, such as broken carts, ploughs, sleds, wagons, and the like, lie scattering by the broken garden fences, while the wood-pile is often left so near the door that, taking the broken farming tools and the wood together, they make up the wan features of the outside show of the farm house. All this comes from a want of a little taste shown and laid out on the part of the farmer, which is so often neglected by him as being of no particular consequence. But this influence for neglect of home embellishments on the part of the farmer does not stop with him; it is transmitted to his sons, and they, in turn, either follow in the footsteps of their sire, or else they abandon the farm and farm pursuits altogether, and go into some business which they can make some "money" at and live. Now who cannot see what the natural influences would come to when a life is spent on the farm with no object in view save that of buying lands and a constant accumulation of hard labor to subdue the same, to a profitable account. But when a spirit of home improvements takes possession of the farmer he will very soon show it out in his life; his sons will naturally become imbued with the same spirit, and hence a whole revolution on this subject may take place in a neighborhood in a few years. In speaking of grounds for farm houses, we do not intend to include "Park Scenery," though it may be all well enough to allude to it. Generally speaking, in this country the best kept grounds are the public ones, such for instance as "Greenwood Cemetery," also "Mt. Auburn" and "Boston Common;" each and all of these places are worthy the attention of all lovers of rural art. Among those grounds of a private nature and large dimensions, we may name "Montgomery Place," "Barevurych," "Kenwood," "Mount Hope," &c., on the Hudson. Also in connection with these we may name Mr. Wadsworth's farm, "Meadow Park," of several hundred acres interspersed with giant oaks and elms at Genesee. Of course no ordinary or common farmer can have grounds of such dimensions, nor is it desirable that they should have. Yet the influence of such works and outlays by men of liberal means has a great effect on the rural population of the country at large, much more so than they have a just idea of. And while the common farmer's grounds may be confined to a single acre, yet it may be made as useful as grounds of tens and hundreds of acres in extent. In laying out grounds of some extent, it is usual to have the roads or carriage "drives" take a serpentine or circuitous route winding about, forming all sorts of "freaks" in their course. But when the grounds are tolerably level or slightly inclined, we think that as good or better effect may be produced by crossing the drives at a

nearly right angle with each other. Also a bold straight drive from the street directly up to the house, when the situation of the house will admit of it, may have as good or better effect than the usual circuitous drive. Of course, a drive straight over a knoll or bright point of land would not be economy or in good taste. But in this case the drive should take the circuitous route, and wind around on the lowest grades to overcome the resistance easy. As to the natural forest trees, they may be managed according to the owner's taste pretty much. About all the attention they require will be to keep down the underbush and thin out some of the thickest of the smaller trees, take off the dead limbs, then leaving the trees to take pretty much their own course. Stagnant waters are generally looked upon as a nuisance, yet on large grounds there may be numerous small ponds that are fed from the bottom by springs. Such ponds may and will often remain apparently fresh through the year, and although not as agreeable as running water, yet they are worthy of protection and consideration by the farmer. It is not to be expected that the common farmer can spend or lay out a great amount of time, expense, or labor, on grounds of this character. Hence he should choose a house lot where nature has or will do a good part of the labor, though the farmer will consider that his extra labor on such grounds is not lost or thrown away. This work can be done by littles and at odd spells where the farmer has really a taste for such work, and in no way will it interfere with his ordinary farm work. One of the finest ornamental shrubs that may adorn the farmer's grounds may be found we think in the common "Forest Laurel," or what the farmers call "Green Ivy," to be had in any quantities in most all forest lands. This shrub, as is well known, is a dark evergreen through the year, growing from three to six feet high, as may be. About the 20th of June it comes into flower, and then for some two weeks may be seen some of the finest variegated flowers, bright pink, light pink, &c. Any one who will take the trouble to examine these flowers by going to the forest may see for themselves if they are not worthy of note and remark. We declare that if the common Kalmia was a foreign shrub and was imported and sold at $5 or $10 a plant, it would be seen and found in most of the amateur's grounds in the country. But as it can be had for asking or nothing as a wild shrub no cultivator takes any notice of it whatever, and so the "Green Ivy" is left to its own glory, and is considered of no sort of consequence, unless it be to "poison sheep" by eating the green leaves in the winter season. This may be true if the sheep were to eat the leaves to any great extent, which they may do when the ground is covered with snow. It is our opinion that this shrub may be transplanted in the spring or fall with little or no trouble, while the after culture would be or need but little attention. Who will try this shrub the coming season, and report progress on the trial, as an ornamental shrub for grounds in future, for, as an evergreen bush, we think it (without the flowers), as highly ornamental and instructive.

## NOTES ON EVERGREEN TREES.

BY J., WESTCHESTER, PA.

NOTWITHSTANDING the large number of Evergreen-trees introduced into this country, I doubt very much any one being able to name more than six varieties that are perfectly unexceptional, as regards hardiness, shape, color, adaptation to every soil, &c. Now I am aware I am going contrary to the favorite hobby of some scores of wealthy amateurs, who have both the time and means to gratify their tastes by protecting the more tender varieties through the winter; yet those who have not the space to devote to so large a collection, are often at a loss to

select such as are adapted to their particular situation. After experiencing such a severe winter as the one we have just passed through, I, for one, am willing to discard quite a number of half hardy trees from my list. Who has not frequently heard the remark, lately, that we may never have so hard a test for our tender plants again? And now perhaps just as they become fully established, and are a pride to the owner, some bright frosty morning you will find the thermometer 20° or 30° below zero, and they are forever after an eyesore, being the fashionable color of *Victoria Brown;* therefore but few of the rarer trees will answer the purpose of a limited grower.

Upon examining several of my old specimen trees after spring opened, I was exceedingly disappointed in finding them entirely dead. The Cupressus funebris, three feet high, killed root and branch; Buxus arborescens, do.; Araucaria imbricata has been lessening every year, and finished its course this spring. Taxus baccata, hibernica, pyramidalis, &c., killed nearly to the ground. Euonymus japonica and its varieties about used up. Cedrus libani and deodara, the former dead, and the latter, a tall beautiful plant, now resembles an old broom, worn to the stump. European Silver fir (*P. pectinata*), contrary to my expectations, is completely spoiled; even our common cedars and junipers are severely injured.

And now for my list of six Evergreens, which embraces the following:—

The Norway Spruce (*A. excelsa*) stands pre-eminent and unrivalled; it combines all that the most fastidious could expect, as it is applicable to all situations and soils, whether in the neat front yard of the modest cottage or farm house, or the more extended lawn of the wealthy proprietor; standing alone, it becomes the pattern of a perfect tree, being of a regular pyramidal shape, a graceful drooping habit, rich green color, which is not affected by the most intense cold, and an extremely rapid growth; the foliage may not be quite so delicate as the following; yet there is something so majestic in its appearance as almost to command respect.

Hemlock Spruce (*A. canadensis*) is most assuredly a formidable rival to the preceding; it is particularly applicable to lawns where it will have room to develop its beauty. Some superb specimens are in the grounds of the late Samuel and Joshua Pearce, near West Chester, Pa.

Bhotan Pine (*P. excelsa*) is, in my estimation, the finest by far of all the pines, being close and thick, contrary to the majority of the family; the leaves are long and handsome; its branches have a tendency to droop, rendering it particularly graceful; it proves entirely hardy with me, having grown it for six years; my specimen has reached the height of nine feet. In one locality I have heard complaints of an insect destroying the leader, but as it does not appear to be a regular complaint I have retained it on the list.

White Spruce (*A. alba*), known with us as the "Double White Spruce." It makes a magnificent tree, although some of the species approach so near the A. Nigra as hardly to be distinguishable from that variety; it is easily known by the peculiar bluish green leaves and numerous short branches; it is regular in its growth, and makes a thick mass of foliage.

American Arbor-vitæ (*T. occidentalis*) is known too well to need a description, although it richly deserves one. Any person who would plant the Chinese variety in preference to the former, I think, must certainly be devoid of taste, as the latter is, at best, but an open, straggling grower, and is rather tender also.

Siberian Arbor-vitæ (*T. Siberica*), although rather more of a stranger, promises to be a much greater acquisition than I expected. The color is of rich dark green, of a perfect shape, extreme hardiness, and will make a splendid specimen either planted singly or in groups.

So much for my list; and now I hope it may wake up a retort, as if there is a better selection to be made I should like to own them.

N. B.—I unintentionally omitted that my Cryptomeria japonica was used similar to Mr. H. W. Sargent's, of Woodnethe, having great difficulty in keeping it heretofore, but the past winter it had no protection, and has lived beautifully; but may go next winter, who knows?

## VEGETABLE PHYSIOLOGY.—NO. 2.

BY YARDLEY TAYLOR, LOUDON COUNTY, VA.

Almost all vegetable physiologists, in describing the assimilation and growth of trees and plants, assume that the sap, being imbibed by the roots, and containing mineral and other matters necessary for growth, is first carried by the pores of the plant to the leaves, and there uniting with the carbonic acid gas imbibed by them, is, by the aid of sunlight, decomposed, and thus adapted to the growth of the plant. It is then returned downward by another set of vessels, and is deposited as new layers in the growth of the plant. This theory, like many others in the infancy of investigations, is likely to be modified, and one assumed more in conformity with the simplicity always observable in nature's laws when fully understood. Where is the evidence that sunlight does decompose carbonic acid gas, or release oxygen from its combination with carbon? The fact that carbonic acid gas is imbibed by the leaves, and oxygen given out, may account for the origin of the theory, but now, when chemistry is shedding its light on this branch of science as well as others, it would seem that electricity can, with more plausibility, be considered as the decomposing agent.

Professor Gray, in his *Botanical Text-Book*, considers "light" as affecting "the chemical decomposition of one or more of the substances in the sap which contains oxygen gas, and the liberation of this oxygen at the ordinary temperature of the air." He then continues: "The chemist can, in certain cases, liberate oxygen gas from its compounds, but only by the aid of powerful reagents, or of a heat equal to red-hot iron." But does not the beautiful art of electrotyping, or gilding by galvanism, separate "oxygen from its compounds" without a degree of "heat equal to red-hot iron?" And who will say that a very small stream of electricity from a galvanic battery, may not effect the same object, only requiring longer time? Nature effects by imperceptible degrees what man can only accomplish with more rapidity in less time, and on a smaller scale.

In the *Farmers' Guide*, published in numbers, and commenced in 1850 by Leonard, Scott & Co., and edited by Henry Stephens and John P. Norton, is an essay on "Electro-Culture" that serves to explain the theory under consideration. In this essay, William Sturgeon, of Manchester, who had successfully applied this principle to cultivation, and has shown the relation which exists betwixt the electricity of the air and the earth, says that "this active element of nature is so universally diffused throughout every part of the terrestrial creation, that it becomes an occupant of every part of the earth's surface, and of the shell of air that surrounds it," and considers that "trees, shrubs, plants, flowers, and crops of every kind, partake of this electrical distribution, and that each individual object is possessed of more or less of this extraordinary element. A disturbance of the electric fluid, in any body, may be accomplished either by abstraction, addition, or by merely forcing a part of it to some particular side of the body operated on.

"In the first condition, the body would be *electro-negative*, in the second, *electro-*

*positive*, in the third, *electro-polar*. Any individual object or body may be *positive* to another, whilst it is *negative* to a third. Hence the *absolute* electric state that any body can appear in is in the *polar*—a condition growing plants must necessarily assume. A similar inequality of electric force occurs among growing plants and their manures, and even amongst the various elements which constitute the latter, no two of them being precisely alike at the same time. Hence the particles constituting each and every variety of soil, are endowed with a peculiar electric force—a circumstance of immense importance in the contemplation of the vegetable physiologist.

"The metals are the best electrical conductors, but there are many other kinds of matter which rank high in this capacity; such are trees when full of sap-water, and consequently all growing plants by virtue of the water they contain. Moist land is also a conductor of electricity. Dry sand is a bad conductor; so is dry mould of every kind; but limestone rock and dry chalk are still worse; and dry air is a worse conductor than any of the rest, though moist air is a tolerably good conductor.

"Another grand law of electricity is, that the transmission is uniformly from the positive to the negative parts. Now, as this is a universal law when electric fluid is transmitted from one body or object to another, it follows that the *electro-positive* state of the air, contiguous to growing plants, causes the latter to become *electro-polar*, even when they are in the act of transmitting fluid to the ground, their upper parts being *negative*, relative to the roots, whilst the latter, in their turn, are *positive* to the contiguous manure and soil, to which they deliver up the fluid, or, rather, such portions of them as are not retained for the expansion and growth of the plants.

"From this train of reasoning, we are led to some of the most interesting points in vegetable physiology. The electro-polar condition of plants qualifies them, in an eminent degree, for the performance of those operations which develop electro-chemical phenomena, and, what is very remarkable, the laws of this beautiful branch of electricity are rigidly enforced, and admirably complied with in the decomposition of carbonic acid gas by their foliaceous parts; for, in this process, the *electro-positive* carbon is drawn to the *electro-negative* poles of the plants in precisely the same manner as any electro-negative pole, artificially made, would release the carbon from the oxygen, and select it in preference. This remarkable fact, based as it is on the strict principles of electric action, not only establishes a correct view of the *modus operandi* by which plants are enabled to acquire food through the instrumentality of their foliage, but appears to be well calculated to give a clue to every operation by which vegetables become nourished, and elaborate their food, in all the variety of structure they so beautifully assume.

"Contemplations on electro-chemical forces, thus disencumbered of complexity, lead by easy gradations to many recondite operations of nature, and to the discovery of those hidden actions by which the ever-varying transformations of matters are accomplished. They are well calculated to afford a clue to those atomic operations which, in silent reclusion, select the appropriate materials, convey them to their destination, and elaborate them in the structure of every vegetable tissue that is found within and upon the land."

Here, then, this theory, for its simplicity and adaptation, challenges our consent—no roundabout way of attaining an end; for if the former were the true one, and all matters necessary for growth, had to be conveyed to the leaves to be organized or fitted for assimilation, we might reasonably suppose that the deposition of woody matter would be greatest near the leaves soon after it was prepared. But we know the reverse of this is the fact, and very wisely has it been so decreed.

The larger increase in bulk near the roots enables the tree to withstand the accumulated force of the winds, in consequence of an increase of its top.

One circumstance may be noted that has been brought forward as a strong argument for the downward flow of sap, and that is the fact that amateur cultivators sometimes practise what is called ringing a branch to induce fruitfulness—that is, cutting a ring of bark out of a limb, say a quarter of an inch wide, or more, during summer. The effect is, that while the growth of leaves and smaller branches is retarded, that part immediately above the incision will increase faster than the part just below. And if we admit that the sap rises to the leaves through the sap-wood, and descends beneath the bark, carrying with it matter ready prepared for growth, the fact might be accounted for on the principle supposed. But by admitting electricity as the decomposing agent, the fact can be as readily accounted for. The carbonic acid gas imbibed by the roots and by the leaves, if decomposed by electricity passing either upward or downward, would deposit its carbon nearest to the place of entrance—that is, that what was received by the roots would form wood nearest the roots, and that nearest the leaves would form the wood of the upper branches. Hence the carbonic acid gas, in descending from the leaves through the sap-water (the largest part of which lies immediately beneath the bark), and meeting with an obstruction by the incision and removing a portion of the bark, would accumulate and be decomposed there, thus adding a larger portion of organizable matter to a less vigorous circulation, thereby inducing greater fruitfulness; for it is a well-known fact among orchardists, that a rapid growth in wood is opposed to fruit bearing, and *vice versa*.

The writer, having long felt an objection against the theory of the downward flow of sap, as never having seen any facts in support of that view, was gratified in reading the article on "Electro Culture," as the explanations on assimilation and growth of vegetables in that article appeared more reasonable, and more in accordance with known facts, and was entirely free from the difficulties of the old theory. Claiming the right of every individual, however humble, to give his views on any subject of inquiry, and wishing to see candid investigation promoted, this essay is submitted to the readers of the *Horticulturist*.

## DESCRIPTION OF A COUNTRY HOUSE.

DESIGNED BY FREDERICK C. WITHERS, ARCHITECT, NEWBURG, ON THE HUDSON.

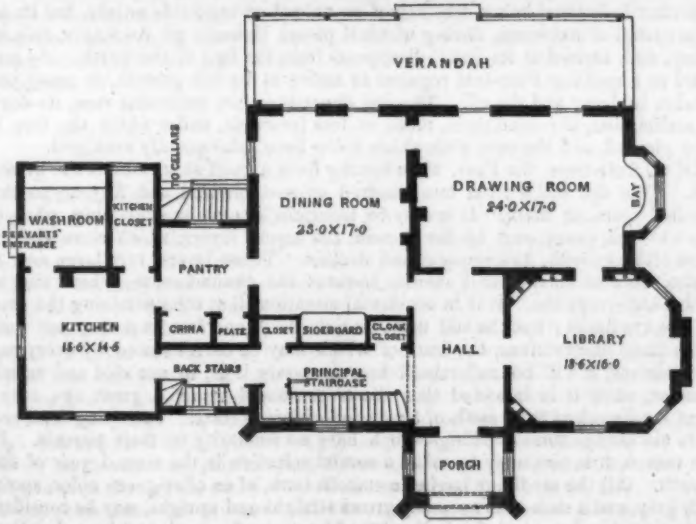
We have engraved for this month a country house, which is to be built on a site where a fine view of the Hudson River, with the Highlands and West Point, can be obtained from the windows of all the principal rooms.

The entrance porch is made (as it should be in every house) a marked feature, and is so arranged that it can be inclosed in the winter by hanging doors to the archway.

Upon entering the hall, the visitor finds himself directly opposite the door of the drawing-room, which communicates with the dining-room on one side, and with the library on the other, the three rooms thus forming an elegant and convenient *suite*.

The outside angles of the library are cut off, and the windows and chimney are placed in such a way, that a person sitting by the fire may, at the same time, enjoy the lovely prospect which this room commands. In the opposite angles of this room, book-cases take the place of the windows; there are also book-cases at the sides of the door leading to the drawing-room. The walls of the library are to be panelled, and the floor inlaid with oak and black walnut.

The dining-room and drawing-room open upon an ample veranda, directly facing the river, making a pleasant resort for summer afternoons. The dining-room is connected with the kitchen by a convenient pantry. The principal staircase is entered from the main hall through an archway, and leads to the chamber




PLAN OF PRINCIPAL FLOOR.

floor, where are four bed-rooms and a dressing-room over the main part, with a bath-room and two servants' bed-rooms over the kitchen wing.

The house is to be built of good brick, with cut-stone dressings, and is to be left unpainted. The mortar used is to be darkened, in order to avoid the white lines which give so cold and disagreeable an appearance to ordinary brick work. There are many reasons why we should leave brick houses unpainted. Their color, when bricks of good quality are used, is not unpleasant, and time softens and varies the natural tints in a very agreeable manner. Vines, such as the American and English Ivies, cling with friendly tenacity to the surface of brick, while nothing can be more charming than the contrast of the soft tints of red with the delicate greens and browns of the foliage. No house in the country should be without its mantle of creepers, which, in spite of all that has been said to the contrary, protects what it hides from decay; and yet, nothing is more discouraging than the attempt to make these creepers cling to painted brick and its wood. Lastly, it is not only better, on the score of beauty, to leave the bricks in their natural state, but it is also more economical. The cost of a new coat of paint every two or three years, particularly on a house so large as the one we have been examining, is an item seriously to be considered. It is not necessary that the bricks used should be of the very best quality; still less need they be pressed. Only let them be well laid, with the joints well pointed, and well clothed with vines. Time, the beautifier, will do the rest.

The roofs are to be covered with Vermont slate. The cost of the whole, including furnace, grates, &c., will not exceed $10,000.

## DECREPITUDE OF THE PEAR-TREE.

BY J. DE JONGE, BRUSSELS.

Every individual being, whether of an animal or vegetable nature, has its average period of existence, during which it passes through all its stages, falls into decay, and, arrived at its limit, disappears from the face of the earth. As many years as a seedling Pear-tree requires to arrive at its full growth, so many years it takes to decay and die off. The age depends on the particular race, its degree of acclimation, the conditions, more or less favorable, under which the tree has been planted, and the care with which it has been subsequently managed.

Of all fruit-trees, the Pear, when sprung from a good race, attains the greatest age. This age varies from one hundred or one hundred and fifty up to three hundred years, or more. It is easy to ascertain its age by examining, when the tree has been sawed over by the ground, the annual layers, which show the progress of its growth, its stoppage, and decline. These layers, very large near the centre, become smaller and smaller towards the circumference, where they are almost imperceptible. It is in accidental situations that trees attaining the greatest age are found; but the soil must be rich, deep, and free from stagnant water. From these observations, the truth of which may be corroborated by every careful observer, it will be understood how necessary it is, in our cold and variable climates, when it is intended that the trees should attain a great age, only to plant stocks raised from seeds of hardy and vigorous sorts. In raising from seed, there are always some seedlings which have no similarity to their parents. For this reason, it is necessary to make a careful selection in the second year of their growth. All the seedlings having a smooth bark, of an olive-green color, spotted with gray, and a stem that naturally grows straight and upright, may be considered to possess the characteristics indicative of firmness of growth and long duration.

The seedlings from the Wild Pear of the woods have been patronized; some authors have recommended the Sucrée Verte Pear, which succeeds better in a strong soil than those of the Poire d'Amande and Napoleon. In several experiments made within the last ten years, we have obtained fine stocks from these three varieties, but have found that the most substantial have been derived from the Sucrée Verte. Nevertheless, we have observed that vigorous varieties from recent regenerations gave a better result. The stocks which were selected and planted, were budded in the summer of the fourth year of their growth, not at six inches above the ground, but at three feet or more, for the following reason: Trees worked too near the ground are liable to sun-stroke, as formerly stated, whilst those budded at the height of three feet are not. Those young trees raised for orchard culture, do not undergo any cut or wound which cannot heal the same season. Their shoots are shortened back at the proper period, in order to form a fine pyramid, either with a half stem or tall stem; and, when older, the trees are subjected to a moderate thinning of the branches. Thus treated, they afford the prospect of good crops for many years. It will be understood, that the nearer we conform in practice to the rules of a rational system of cultivation, the farther we put off the period of weakness and decay, and the more we deviate from such system the sooner does that period arrive. Crops too heavy for the richness of the soil, too severe pruning, and inconsiderate lopping or thinning of the branches, and inattention to the destruction of insects, are so many causes which hasten the period of individual decay in the Pear-tree. The time, however, will come when attention to all these points is useless, when the tree loses its vigor, and only produces poor and flavorless fruit, containing no seeds. The terminal shoots are short, slender, their bark cracks, and they no longer perfect their wood, losing their leaves, and becoming dried up.

When a tree presents these characteristics of old age, it ought to be destroyed, for it uselessly occupies room, has an unsightly appearance, and can only deposit diseased excretions by its roots, which it ought not to be allowed to do. No other tree ought to be planted in the same place till many years have elapsed, unless, indeed, the soil occupied by the decayed tree be removed.—*Gardeners' Chronicle.*

## PEARS ON THE QUINCE.

At the last meeting of the London Pomological Society, Mr. Rivers, of Sawbridgeworth, exhibited three pyramidal Pear-trees, and with them the following memoranda. He said: "The trees (Louise Bonne of Jersey) are from seven to eight years old. No. 1, a tree budded on the Quince, has struck root from the collar of the graft; as soon as this took place, about three or four years ago, all the Quince roots died, for, as will be seen, the stump is quite bare. These (Pear) roots penetrated into the solid, calcareous clay to the depth of nearly five feet, and so hard was the clay that the spade could not penetrate it so as to take them out to their full length. As soon as these roots struck into the clay the tree ceased to bear, and its shoots became full of cankery spots, the leaves more green than those on the Quince roots, and the young shoots more vigorous, although they cankered and died back. Out of a plantation of two thousand pyramids of this variety on the Quince, only the tree now sent and another have struck root from the collar of the graft, and both are in the same state. Last year, every tree except these two was covered with the very finest fruit; the tree sent did not bear one—the other produced two or three, which were cracked, spotted, and

worthless. No. 2 is a tree of the same sort, on the Quince stock, which grew within five feet of No. 1; this, in common with the others in the same plantation, has no canker, and has borne fine, clean fruit. The soil is moist, and brings on moss to a small extent. No. 3 is on the Quince, and is a young tree that has been twice removed. Trees of this kind, where soil is not favorable (and I have a part of my nursery the soil of which is very wet and cold), I remove biennially, giving them a compost of sand and rotten manure. In a few years, their roots become like those of rhododendrons, and keep close to the surface, so that the trees keep in good health, and bear profusely. The fibrosity of the roots of the tree sent is remarkable."

These specimens were extremely interesting, showing as they did that the Quince was better suited for certain kinds of soils than the Pear stock; they also showed how necessary it is to keep the roots of our fruit-trees near the surface, and indicated that, under certain circumstances, at least, to deep rooting we owe barrenness and canker.—*Ibid.*

# EDITORS TABLE.

Cuba.—A short look at Cuba has made an impression on us never to be effaced. The notes and observations made on the tour having relation to topics little touched upon in books, we shall prepare in time to commence their publication in the June number. Where the novelty of vegetation, and, indeed, of everything else, is so striking, it requires some time to recover from one's surprises, to be enabled to give sketches with any kind of gravity. A *perpetual spring*, to the Northern man, is something to think upon the remainder of one's life.

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Excuses.—Many matters that demand our attention, are necessarily deferred till next month, when we hope to bring up all arrearages.

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The Weather.—Up to the time we write (April 21), the weather, throughout a large district of our country, has continued unusually cold. Snow fell on the 17th, at Louisville, to the depth of four inches. On the first of April, the Pride of China was in full flower at New Orleans, and the forest-trees were in nearly full leaf on the 4th; a cold wind from the north set in, and, on the 5th, there was a heavy frost that injured the corn and perhaps the sugar cane about New Orleans. At Natchez, on the 5th and 6th, the heaviest winter clothing was a necessity; this winter weather accompanied us up to Philadelphia by the land route. On the 12th, the thermometer at Montgomery, Alabama, stood at 44°; on the 14th, in the higher regions of Georgia, it was 42°; on the 16th, at Augusta, fires were necessary in every house, and wood was in great demand; at four o'clock in the morning of the 17th, at Wilmington, N. C., passengers who stepped hastily from the cars, slipped down on a very heavy frost, which covered everything like a mantle of snow. The fruit in this large region of country is materially injured, if not entirely destroyed. Pears, at Atlanta, as large as ripe beans, were entirely frozen, and black. Further north than Washington, fruit was not so forward, and escaped this visitation. We are yet to hear the result to the sugar-cane; cotton, in most of the Southern States, was not generally up, and so far escaped. The West and Southwest has suffered, but the disaster, we trust, is not so great as we witnessed in the "sunny South."

On the 19th and 20th a severe northeast storm, accompanied by heavy snow as far south as Pennsylvania, and consequently a depressed thermometer, swept over a large district of country, and placed people in a state of despair; the fruit buds hereaway were somewhat injured, but generally they were not so much advanced as to leave us without hope that many are safe.

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Books and Catalogues received.—A Practical Treatise on Grasses and Forage Plants. By Charles L. Flint, A. M. New York: Putnam & Co.

Descriptive Catalogue of a choice collection of Fruit and Ornamental Trees, &c. &c. For sale by D. Chauncey Brewer, Hampden Nursery, Springfield, Massachusetts.

M. B. Bateham & Co.'s Catalogue Columbus Nursery, Ohio (Ellwanger & Barry, and M. B.

Bateham, Proprietors), contains an essay on planting and managing trees, with a list of their stock, and additional observations of interest.

New York State Agricultural Society's List of Premiums and Regulations for the Seventeenth Annual Fair, to be held at Buffalo, October 6, 7, 8, 9, 1857. Look out for prizes, which are numerous and liberal.

Mr. E. W. Bull sends us a fine picture of the Concord Grape, with testimonials such as no one who reads them can resist, but must "plant immediately." The words, in large letters, "Inch in Diameter!" "No Mildew, Rot, or Drop Off!" has already induced an order from ourselves for this variety, so much esteemed at the eastward, and already coming northwards into favor.

Extrait du Catalogue des Plantes cultivées chez Pelé, Rue de Lourcine, Paris, 1857.

A List of Plants for sale by John Wilson at the Albany Nursery, N. Y. Very neatly got up, and varied in contents.

Reports of the Committee for 1856 of the Massachusetts Horticultural Society, and Schedule of Prizes for 1857. Boston. To be further reported on.

N. Coe, Esq., of Oregon Territory, will accept our thanks for seeds and flowers from that interesting region. We shall report on their beauty and value in due time.

Arctic Adventure. Edited by Epes Sargent, Boston. Philips, Sampson & Co.

J. M. Thorburn & Co., 15 John St., New York, advertise that they have the true *Imphee* or *Sorgo Seed*, at one dollar a pound, and have placed a pound at our disposal for trial.

Mr. R. Peters, of Atlanta, Georgia, will accept our sincere thanks for valuable packages of seeds, and a superb specimen of the silky dress of his Cashmere herd.

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The New Yam.—The following scrap is from the *Cottage Gardener*, and signed by a man of multifarious accomplishments:—

"The most perfect indifference" is shown by the new Yam to "the most rigorous seasons;" it is most perfectly hardy. The evidence is most conclusive to prove that the bigger the "sets" or seed, the larger will the crop dig out. All potting, and all fiddling with it, is a perfect waste of time. Trench the ground as deep as for parsnips, and put in spanking long Yams in the first week in March, and let them alone entirely for the rest of the season.

D. Beaton."

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Roses.—A knowing man writes to the *Gardeners' Chronicle* about Roses: "Let them have an eye to every point that tends to perfection—vigorous habit, constancy, free blooming, and, above all, handsome and abundant foliage, not forgetting high perfume. These are what we must look for, now-a-days, in every new Rose that is brought before the public, and a variety that has not all these qualities more or less in advance of its compeers, has no business to pass muster. Above all, however, let handsome foliage be aimed at; for, as an old cultivator of this lovely flower, I can answer for it that a clean, luxuriant foliage is the very making of a Rose. We amateurs do not want varieties from which a choice bloom can only be plucked now and then. To any beginner in the cultivation of Roses, I would say: "Never rest till you have procured Madame Laffay and William Jesse, and let him add Coupe d'Hebé, Jules Margottin, William Griffiths, Baronne Hallez, Duchess of Sutherland, Blairi No. 2 (Hyb. China), Auguste Mie, Prince Léon, Géant des Batailles, Baronne Prévost, Pius IX., and Mrs. Rivers (the best white)."

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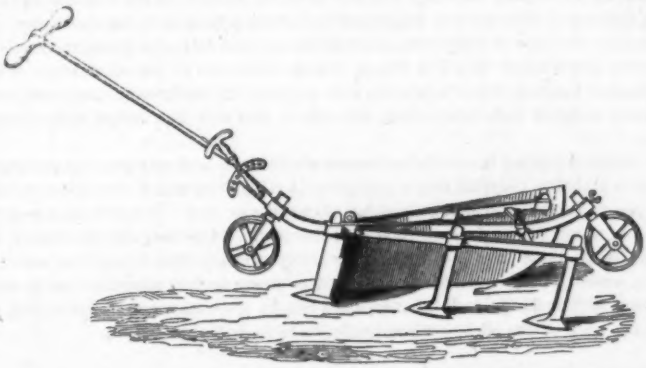
A New Garden Implement.—Recently, at Edinburgh, we saw in operation an implement which combines the advantages of the hoe on an extensive scale, a harrow, a grubber, or fork, and a plough, or, rather, a machine for earthing up potatoes, &c.—all this in one, and easily worked by one person. Of its great utility we cannot possibly speak too highly, and

to market gardeners especially, and in those establishments where kitchen gardening is carried on extensively, it will be most valuable. The inventor of this *multum in parvo* instrument is C. K. Sivewright, Esq., of Edinburgh, who had it tested in the presence of a few who are interested in horticultural pursuits. Its cost is about £4 [or twenty dollars.] The implement is so constructed that it can be used with five hoes or cutters, and, by means



of a simple contrivance, it can be extended or reduced to a width of from twelve inches to two feet. By removing the cutters, and inserting iron teeth about eight inches in length, it can be made to answer the purpose of a fork; and by moving these, and placing side knives in the form of a plough, ridges can be thrown up with great ease. We were told that the saving of labor with one of these implements was very great, one man doing easily and most effectively the work of four; indeed, we are quite convinced that it is of great practical utility in the culture of turnips, cabbage, and other green crops.—*London Florist.*

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Bees wintered under Ground.—A communication, relative to the preservation of bees during winter, has just been made at the Royal Central Horticultural Society, by Mr. Saillet, Jr. The principal facts contained in it are as follows:—

"The experience of M. Forstner, Instructor at Havengan, reported by the Society at Munich, seems to prove it possible to preserve bees under ground during winter.

"In a part of his garden, quite sheltered from dampness, M. Forstner dug a deep well of eight feet, four feet long, and three wide. The bottom was filled with pebbles to the depth of a foot. To protect the bees from any water that would trickle through, this first bed was covered with another one, composed of pine leaves, which received in its turn a bed of beaten flax of a foot in thickness.

"The 30th of October, he lowered into this pit two hives, containing two vigorous swarms. At the extremity of each hive, he had adapted several pipes of quill pens, open at each end, intended to allow the air to enter; the one weighed about sixty-three pounds, and the other thirty-two. The spaces between the hives were filled lightly with pea haulm; the whole covered again with about half a foot of pine leaves; at last, the excavation was hermetically closed by an old broken door, which was covered over with a little earth, trampled upon.

"The temperature being warm, the 21st of March, of the year following, Mr. Forstner withdrew his hives, and discovered they had lost nothing in weight. In the smallest, in closing a young swarm, which had as yet constructed only the half of its house, he found

only four dead bees; he moved into it two handsful from the other hive, where the swarm was completely established, and which was too contracted for the great number of bees in it.

"The hives were carried back to the places they usually occupied, and were found to be of full weight.

"Then an astonishing difference was proved in the account of the loss among the hives which had passed the winter in the ground, and those preserved in the usual way.

"In short, the hive of sixty-three pounds still weighed fifty-nine pounds; the second, of thirty-two pounds, had only lost fifteen ounces, while one of the other hives, which, in autumn, had weighed fifty-two pounds, now weighed but thirty-nine, and another, which previously weighed forty-two pounds ten ounces, was now but twenty-eight pounds ten ounces.

"M. Forstner has not been able to discover whether the bees consume less under ground, or if, as is probable, they fall into a sort of torpid sleep, from which they rouse sooner than other insects, on account of the hatching of the young bees. However that may be, the swarms on which this experience rests were full of vigor, indefatigable after sweet riches, and furnished, earlier than is common, very pretty swarms; their honey was perfect.

"The author of this experience adds, that to preserve field mice and moles from the hives thus kept under ground, it is necessary to take precautionary measures, such as protecting the walls of the pit by an iron trellis."—*Flore de Serres.*

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Wistaria sinensis.—The following query and answer, cut from the *London Cottage Gardener*, applies with equal force to this country:—

"*Climbers for Poles.*—Would you have the kindness to inform me, through your 'Answers to Correspondents,' whether a Climbing Rose or Wistaria would do for a bamboo pole? Perhaps you would guide me as to the most suitable, and as to the time of planting and soil adapted for them? T. J. Watson.

"[The answer to this question depends, first, on what part of this kingdom the bamboo pole is to be set up. Anywhere in England north of London, we would not recommend a pillar Wistaria. Secondly, what is the inquirer's taste? Which plant does he desire to cultivate? If this bamboo pole is to be set up in the plains of Devon, or some such-like plain, where a pillar Wistaria would grow and bloom as well as a pillar Rose, which of the two would you prefer? We would select the Wistaria, and prepare a border for it as we would for a grape-vine, in every particular; we would travel one thousand miles to find a Wistaria worth planting. It would need to have been growing for the last three years in a pot, and the last season's growth, to be over four feet. Ninety-nine Wistarias out of a hundred, if pinched in pots, are not worth a groat the dozen. It seldom happens that a Wistaria under 5*s.* 6*d.* is worth having as a gift. The fact is, people do not yet understand the treatment of this tree. Our pillar Wistaria should be pruned exactly like a pear pyramid.]"

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Culture of the Rose.—The time approaches for planting Roses; with some of our readers it is at hand. A word as to their culture is, however, always in season. If the ground is light, it will be necessary to mix good strong loam with it, for they do not grow well in light soil. Loam, therefore, is as essential as dung. They always grow best on strong land; take care, therefore, to supply strength by mixing loam as well as dung wherever you are going to plant them. Presuming, then, that you are beginning, send to a respectable gardener, and as soon as they are ready to take up they will be forwarded. Supposing they are standards, take a sharp knife, and wherever the ends of the roots have been broken or chopped off, cut

the rough end or bruised part away. Then dig your hole where the ground is prepared, and plant it with the collar of the root just below the surface, for, if deeper, they will not flourish, and will sometimes dwindle and die. Thrust a strong stake down of such a length as shall just reach the head, and to this stake fasten the tree in an upright position. Water, to settle the earth about the root, and tread the earth firm. If there be any very long shoots to the head, shorten them a little, because the wind has great power, and might break them. But pruning should be deferred until the spring, which we will suppose to have arrived. Now, with a sharp knife, cut off all weakly shoots close to the base, and shorten all the ripe wood to two or three eyes, taking care that the top eye left shall point outwards or downwards. When the shoots push, rub off any that grow inwards. The tree will bloom freely unless attacked by the maggot, which is generated in the very heart of the bud; but when the first buds have been destroyed by the maggot, it is only the first bloom that is lost; the tree will recover. When the autumn comes, you may just shorten some of the longest branches, to lighten the head a little, and, in spring, properly prune them again. Now, you may study the form of the tree in your pruning, bearing in mind that all the shoots which grow inwards where you have omitted to rub them off must be cut clean away, except where you leave them longer for the sake of forming the head. The head ought to be formed by several branches growing outwards, equally divided as it were, and if two are close together, let one be removed. In pruning, therefore, some regard should be had to an equal growth all round. As it is desirable to get the head of the tree as good in form as possible, as soon as we can, we have to bear in mind, when we prune, that a top eye is sure to grow strong; the second may grow, and sometimes the third will start. This ought to give us a good idea of what the tree will be at the end of the season, and may induce us to cut in more or less, as will best assist the form of the head. It ought, however, never to be forgotten that weakly shoots are useless and mischievous, and so, also, is every branch that grows inwards, and helps to fill up the interior of the head. The stocks of tree Roses will every now and then send out branches, which not only deprive the heads of great nourishment, but they are also in the way. They should therefore be removed at once—the instant they are discovered; whether they come from the root or the stem, they must not be allowed to grow.

Roses on their own roots want the same kind of soil, mixed with peat or sand to lighten it, as their fibres and roots are not so robust as those of the brier, and especially some of the more delicate varieties. If the small sorts are intended for a bed, it is worth while to make up the soil on purpose all over the bed. If they are isolated plants, straggling about here and there, a circle of one or two feet may be enough for each plant, but this is supposing the soil too light. If, however, it is good, strong, kitchen garden soil, or like it, a little dung forked into the ground will do all that is wanted. If intended to climb on a wall, or front of a house, or on poles or arches, we must calculate on their growing for years, and therefore provide more fitting soil to ramble in; at the same time, we may bear in mind that good, strong loam naturally forming the ground can hardly be improved for Roses that are to stand for years. Fruit-trees do well on natural loam, and so will everything else, and, when we are making a plantation of Roses, we may look at the productions around us, and if the trees, shrubs, and flowers, are growing strong and well, we need trouble our heads very little about a change. Some persons plant all the dwarf fancy kinds of Roses in good soil, about a foot apart, and then cover the surface with large flint stones, building, as we may call it, close up to the stems. The appearance of these Roses, blooming over the flat stones, is very curious, but no one can dispute that they are pretty. They keep on flowering till the frost settles their affairs for the season, and the roots are so protected by the stones that they survive even a hard winter. They are cut down to the surface of the stones, and, in the spring, they come out stronger than in the previous year, and spread all

over the flints. But this mode is only adapted for the small dwarf-growing sorts, of the nature of the Crimson China, of which, however, there are now several varieties.

Climbing Roses will often remain without a fair start the first season; if so, cut them down tolerably close before they begin to grow in the spring. There will be no mistake the second season; they will throw up from the ground very strong shoots, and you have only to direct and fasten them where they are to remain. The weak shoots that come up or out of the wood, being useless, should be taken away. The side branches of the long shoots should be spurred in to one or two eyes, and, when the space intended to be covered is once complete, you have only to cut in the summer's growth to the last two or three eyes. If you have any reason to suppose that the roots have at all exhausted the soil, the most easy way of supplying the deficiency is to make a bank round the root, and apply liquid manure, a spadeful of rotten dung stirred into five gallons of water, two or three days, and then water with the clear liquor till it has all soaked to the roots.

Roses for show must be fastened, to prevent their being frayed by their own leaves, and shaded from the broiling sun, for you will scarcely find a perfect bloom in a hundred when left to the mercies of wind, dust, and midday rays. A Rose bloom must not be touched by a leaf, for the slightest rub bruises and spoils it. Let the bloom be tied, to prevent it moving to and fro, and the leaves and branches that could be blown against it must be tied back. An oiled paper-cap over it, like an umbrella, will keep off the sun and rain.—*Midland Florist.*

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Answers to Correspondents.—(P. T., Canada West.) The most complete work on the melon is that of M. Jacquin, Paris, but now difficult to procure. His list contains eighty-eight varieties, with as many colored figures, each one being accompanied by a representation of a slice of the fruit, to indicate the color and thickness of the flesh and rind; an example is also given of the branch of an individual variety of each class, displaying the foliage, blossoms, and manner of growth. The work is founded on practical experience. The manner of pruning recommended is this: When the plant has four leaves, exclusive of the cotyledons, it is cut down to two; the branches proceeding from their axils, having just unfolded the third leaf, are again cut down to two; and if these fail to show fruit blossoms, the same is repeated, when they will invariably do so. The object is to insure the emission of fruit blossoms, which, in the melon, usually occurs on the second ramification from the parent stem, but always on the third.

(W. W. T.) Wait in patience; Rome was not built in even a week.

(Rosa S.) Be sure, when you plant your rose bushes, that the soil is well drained; you may do this in several simple ways. For instance: Dig the holes twice as deep as you have heretofore thought needful, and place in them stones or broken flower-pots; indeed, the latter, if whole, will form an effectual drainage, receiving water instead of soil, and holding it till it disappears. Place them upside down.

(B. W. R.) Of the *Duvaua*, there are four species in cultivation in Europe, and perhaps in America, all handsome evergreen bushes, with bright, shining foliage; the leaves are small, oblong, and toothed, with numerous small flowers of a greenish yellow, and small, dry berries. The foliage emits, when bruised, a strong but not unpleasant odor of turpentine. A pretty phenomenon, which will interest children as well as grown persons, is exhibited by the leaves of Davaua ovata and some other plants; the leaves, or parts of leaves, "after lying a short time upon water, will be found to start and jump as if they were alive, while at the instant of each start a jet of oily matter is discharged into the water. This circumstance appears to be owing to some peculiar irritability of the parenchyma of the leaves, which, when acted upon by water, causes the turpentine sacs that abound in them

to empty themselves with violence, and the movement of the leaves may be ascribed to the recoil produced by the discharge. Thus we have, in every leaf, a sort of vegetable battery, which will keep up its fire until the stock of ammunition is expended."—*Botanical Register.* The movements of the leaves upon the water have been compared to a fleet of ships employed in manuœvring, or to persons engaged in dancing.—*See* Loudon's *Gardeners' Magazine*, vol. ix. p. 377. The Schinus molle presents the same curious phenomena.

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Gossip.—Cowper writes thus to his friend Newton: "I delight in baubles, and know them to be such; for, viewed without a reference to their Author, what is the earth? what are the planets? what is the sun itself but a bauble! Better for a man never to have seen them, or to see them with the eyes of a brute (stupid, and unconscious of what he beholds), than not be able to say: 'The Maker of all these wonders is my friend.' The eyes of many have never been opened to see that they are trifles; mine have been, and will be till they are closed forever. They think a fine estate, a large conservatory, hothouse, rich as a West Indian garden, things of consequence; visit them with pleasure, and muse upon them with ten times more. I am pleased with a frame of four lights, doubtful whether the few pines it contains will ever be worth a farthing; amuse myself with a greenhouse which Lord Butler's gardener could take upon his back, and walk away with it; and, when I have paid the accustomed visit, and watered it, and given it air, I say to myself: 'This is not mine; 'tis a plaything, lent me for the present. I must leave it soon.'"——The extent of the credulity of mankind scarcely needs illustrations; the changes of opinion are, however, truly curious. Till very lately, real mummy was sold, in the Philadelphia drug stores, as a curative remedy. Powder of silkworms was formerly given for vertigo; mellipedes, for the jaundice; fly-water, for earache; five gnats were considered a dose of excellent physic; lady-birds, for colic and measles; ants were incomparable for leprosy and deafness. A learned Italian professor assures us that a finger once imbued with the juices of a certain beetle, will retain its power of curing toothache for a year. One pundit taught that the efforts of the silkworm to spin its cocoon, was the result of colic.——The instincts of insects in constructing their habitations, defy our penetration; there is one species which excavates a gallery upwards of two feet in length, and half an inch broad. It is furnished at the orifice with a curiously constructed door, actually turning on a hinge of silk, and, as if acquainted with the laws of gravity, she invariably fixes the hinge at the highest side of the opening, so that the door, when pushed up, shuts again by its own weight.——The minority report of the Regents of the Smithsonian Institute, in 1854, signed by Hon. James Meachan, contains some home truths. Alluding to the publications of the Institute, it says: "They are Smithsonian contributions just in the sense that the publications of Appletons, Putnam, and Lippincott, may be called Appletonian contributions to knowledge, Putnamian, or Lippincottian contributions to knowledge. The only difference is the degree of credit obtained for the work!——In Syria, apricots are dried in great quantities, says a late traveller, and exported to Egypt under the name of Mishmush, where they constitute a most palatable and convenient article of a traveller's *commissariat*, as, when stewed, they make an excellent dish, soon got ready; the fruit keeps perfectly well in this dry climate, and sufficient for a month's consumption, or longer, can be stowed in a very small compass. Mishmush was a principal article in our cuisine during our voyage up the Nile, and, from its portability, it is excellently adapted for desert travelling. Zumner è deen (the moon of the faithful) is the same fruit differently prepared, and is equally known as mishmush, but is very inferior in quality to the former kind. It consists of the pulp of the apricot rolled out (after drying, I should suppose) into thin sheets two or three feet long, and a foot or two in width; and, from its dark color, and the edges of the sheet being left untrimmed (as in the case of the peach leather of America), it resembles nothing so much as a blacksmith's old

leather apron; when dressed, however, it is no despicable dish, and, in the upper country, is the kind of mishmush most usually seen in the markets; we could seldom procure the entire fruit, and when we could it was rarely of the best description.——Patchouly, the favorite perfume, is obtained from an otto contained in the leaves and stem of an herb which grows extensively in India, and resembling our garden sage. Its odor is the most powerful of any derived from the botanic kingdom. In its pure state, it has a kind of mossy or musty odor, analogous to lycopodium. Chinese or India ink is scented by some admixture of patchouly.——Shagreen, much used, formerly, for spectacle and other cases, is made in Astracan. The material is the strong skin that covers the crupper of the horse. In its preparation, the roughness is produced by treading into the skin hard, round seeds, which are shaken out when the skin has been dried; it is then stained green with copper filings and sal ammoniac, and the grains or warts are then rubbed down to a level with the rest of the surface, which thus presents the appearance, that used so much to puzzle us, of white dots on a green ground.——What is a billion of billions? The number is a quadrillion, and to count it at the rate of 200 in a minute, would require all the inhabitants of the globe, supposing them to be a thousand millions, to count incessantly for 19,025,875 years, or more than 3,000 times the period during which the human race has been supposed to have been in existence.——The hop pillow was formerly a popular application to produce sleep, one of the most active ingredients of the hop being its narcotic essential oil, which gives the flower a peculiar smell. It was a great favorite with George the Third, in his sleepless fits.——The line run between the United States and Canada, in accordance with the Ashburton Treaty, it is not generally known, cost the labor of three hundred men for eighteen months. For three hundred miles, a path was cut through the forest, thirty feet wide, and cleared of all trees. At the end of every mile is a cast iron pillar, painted white, square, and four feet out of the ground, and bearing, in raised letters, on its sides the date and the names of the commissioners who ran the line.——Arago has left us this important diction: "Whatever may be the progress of the sciences, never will observers who are trustworthy and careful of their reputation, *venture to foretell the state of the weather.*" It is best, therefore, when asked if you are weatherwise, to say: "No; otherwise!"——A tunnel through the earth from England to New Zealand, would be nearly eight thousand miles long.——There is just now a perfect fury among collectors for majolica ware; it was made in Italy, though originally in Majorca, and the best belongs to the fifteenth and sixteenth centuries. Raphael is supposed to have painted some of it, and his pupils more. A Mr. Bernal set the fashion of collecting it; his collection contained about four hundred pieces, which cost him less than $5,000, but realized, at his late sale, $35,000.——The great Pyramid of Gizeh, it has been calculated, could not now be built for less than a hundred and fifty millions of dollars.——"The acquisition of the *language of botany*, the technical terms employed, is generally considered," says Dr. Darlington, "a formidable affair." He does not recommend learning a parcel of uncouth terms, without comprehending the objects to which they are applied, but rather to look at the objects, and examine their structure: their organs must have a name, and these, once acquired, are no more burdensome, but an acquisition. It might be dull work to take up a Directory, and commit to memory the names of the inhabitants of a city, but if we go among them, and form some interesting acquaintances, we find no difficulty in learning the *names* of our friends. Thus, we ought never to waste our time in learning mere names *apart from objects;* the study of *names* and *things* should always go together. As soon as we *know* a plant or tree, we feel a little affection for it; to a new acquaintance, there is the formality to be undergone of an introduction; in botany, thus, we are continually acquiring *new friends.*——The evident mode of getting rid of annual weeds in gardens and farms, is not to let them ripen their seeds; this is done by keeping the ground stirred or ploughed for a year or two, as well to prevent a new crop as to promote the vege-

tation of all the old ones in the soil. This applies to annuals, but, in the case of plants that spread by roots, the extirpation by hand or instrument is the only mode.——Shakspeare, in his *Winter's Tale*, thus alludes to the violet:—

"Violets, dim,
But sweeter than the lids of Juno's eyes,
Or Cytherea's breath."

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Flower Seeds.—We have, from Mr. Dreer, of Chestnut Street, Philadelphia, samples of his flower seeds, put up to go by mail, which is a great convenience to distant gardeners, ladies, &c.; they have only to put a dollar in an envelop, direct it, place it in a hole in a post-office window, and, with only three cents' worth of manure (no water), a whole bunch of seeds will *come up* in a few days, without trouble, and you can water at leisure.

R. K. Bliss & Haven, Springfield, Massachusetts, whose advertisements have attracted much attention in our pages, have also sent us samples (innumerable) in this way, for which they will also accept our thanks. An editor of a journal likes to see the handywork of his readers, and often has a fellow-feeling with them which may be without any public expression, and yet none the less forcible and agreeable.

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Description of the Greenhouses and Conservatories at Springbrook. By Thomas Meehan, of Germantown, late gardener thereat:—

In numerical order from the mansion-house is—

No. 1. *A Greenhouse*, double pitched, and 38 by 20 feet. It includes a seed-room and potting-room, so that the necessary operations of plant growing can be carried on without exposure to the open air. In this house are collected plants from New Holland, Cape of Good Hope, and the more temperate regions of the earth.

No. 2. *Conservatory*—mainly for *Rhododendrons* and *Azaleas*. It is 31 feet 1 inch in length by 24 feet in width.

No. 3. *Stove or Hothouse*—same dimensions as No. 1. It is kept generally at a temperature of 60° or 70°, to accommodate plants from tropical countries.

The above three houses form one complete range, No. 2 being the central, and considerably elevated above the others. Its roof is supported by truss work, in order to avoid the inconvenience and unsightliness of columns. The whole range is heated by hot water from two of Burbidge & Healy's boilers, with Sylvester furnaces, furnished by Morris, Tasker & Morris, of this city, which answer admirably.

No. 4. *Cactus House*.—It is 51 feet in length and 33 feet in width, double pitched. The roof, massive as it is, is supported by a single iron column, and four iron braces, running diagonally. It embraces the largest and choicest collection of those grotesque-looking plants in the country. Some of them are of great age, and many reach almost to the apex of the roof. A single specimen of the celebrated "Visnaga," or "Tooth-Pick Cactus," of the globular variety, is over four feet in circumference. These gigantic forms make, as it were, a "body guard" to the apartments of the *Queen of Flowers*, the *Victoria Regia* occupying the adjoining house.

No. 5. *Lily House*—30 feet long and 33 feet wide. In the centre is an octagon-shaped tank, 24 feet in diameter, in which the Victoria is grown. This tank is formed in the central portion, about 14 feet square, being built up of brick, 4½ feet high. From the top of this brick centre a ledge of boards proceeds outwards, about five feet all round, handsomely curbed at its edges, in order to contain enough water to accommodate the floating leaves. The brickwork is coated with hydraulic cement, and boards are fastened vertically to the sides by copper bolts passing through them and the brickwork, and secured by nuts and screws. To these boards brass hooks are affixed, to support the heating pipes hereafter to be described; and the whole interior of the tank, as thus formed, is lined with sheet lead; about 4,000 lbs. being employed for that purpose. The bottom of the tank is composed of stout hornblende stone, supported on pillars of masonry, to allow the four-inch hot-water pipes employed to heat the soil in the bottom of the tank, to pass up and down in every direction *beneath*. Connected with these four-inch pipes is a range of one-inch leaden ones, which, passing through the sides of the tank, and supported by the brass hooks above alluded

to, heat the water in the inside by the hot water circulating through them. To *equalize* the heat in the tank, the flow of two of these pipes is led round the tank to the right, and that of the other two to the left. The soil occupies about two feet of the tank's depth, into which the lily is planted, the remainder being filled with water, which is brought into the tank over a planished copper wheel with floats, by propelling which a current is produced that keeps the surface of the water clean and pure. On the right of the Lily House, as we enter it, is a rectangular tank of the entire length of the house, heated to the same temperature as the Lily tank in the centre, by a small pipe led through it from the larger ones beneath. This is kept for the *Nelumbium speciosum*, the famous "Lotus" of the ancients; *Nymphæa cerulæ* and *N. rubra*, the red and white water lilies of China, and other aquatics. This tank serves also as a nursery for gold and silver fish, which are reared here in great abundance.

The main plant of the *Victoria* occupies the centre of the tank. Around it are a number of small ones in boxes, intended by the proprietor for gratuitous distribution amongst those disposed to try the cultivation of the plant in other parts of the country. The writer feels a certain degree of sadness in learning that the old plant of the Victoria, which had contributed to the enjoyment of thousands, as well as received, in by-gone times, so large a share of his own attention and care, has been discarded for one of its own offspring—a "true American."

A fine collection of exotic ferns, for which the moisture, partial shade, and temperature of the house, are so well adapted, lines one of its sides. One end is covered with air plants, growing on blocks of wood, and the other by that unrivalled creeper, the *Cissus discolor*, the beautiful velvety variegation of the leaves of which will probably never be surpassed. Two varieties of pitcher plants, and an extraordinary specimen of the very scarce and beautiful East Indian plant, *Brownea grandiceps*, are also inhabitants of this department. On the south side of the house, the light is admitted through stained glass of various colors, producing a highly pleasing effect on the foliage of the ferns, and other desirable plants, within its reach. The Lily House being separated from the Cactus House only by a nine-inch wall, the two are heated somewhat in connection with each other. Two boilers are employed. The one specially intended for the former, is in no way connected with the latter, except that the hot water intended for the wheel (to which a stream of cold water is also led) is heated by a circulation passing through a leaden pipe to a reservoir from which both boilers are filled at the extremity of the Cactus House. The boiler of the Cactus House is larger than the other; and besides the pipes which it heats around "its own" house, has a branch diverging on the other side, and, passing round the Lily House, supplies the latter with additional heat in severe weather.

Returning from the Lily House, we pass down on another side of the Cactus House, the rafters of which are clothed with *Bignonia venusta*, adorned with festoons of flowers, *Bignonia picta*, *Passiflora elata*, *&c.*, in luxuriant health.

No. 6. *Orange-House*—38 feet in length and 14 in width. This house, besides containing a collection of trees such as its name implies, and immense specimens of American Aloe, or Century Plant, India Rubber, Camphor Tree, Finger Lemon, Forbidden Fruit, different kinds of teas and other plants merely requiring protection from frost in the winter season, contains also the main reservoir from whence all the houses are supplied with water. It is lined with lead, and contains about 2,000 gallons. The water is forced up by two of Douglas' largest (No. 6) rams, from springs rising on the farm, 1,500 feet distant. One of these supplies the Mansion-House in the summer season, the excess flowing over from a higher reservoir being led into this. Adjoining this house, and running parallel with it, is

No. 7. *The Orchid-House*—38 feet in length and 10 feet in width. This house is heated by hot water, partly with four-inch pipes, and partly on the "tank system," and by the same boiler used for the last house. A brick pit is constructed inside, which, near its top, supports a divided iron tank, open above, and through which water flows when heated, and returns again to the boiler. This is covered over by tarred oak slats, sustaining a bed of gravel upon which plants requiring moist bottom heat are placed. From apertures in the side of the brick pits, steam is made to permeate the house, when, and as desired. There is probably no house on the premises more interesting than this one. A house properly

adapted to the growth of the air plants of the tropics, hanging, apparently from threads, to the branches of trees, or seemingly springing from dried blocks, trunks, and old roots, as described in the narratives of tropical travellers, is one of the sights often heard of, but seldom seen in this country as yet. In this house may generally be seen some of these wonderful productions of Flora in flower—now resembling some bird, now some moth, and at other times butterflies, or other insects. The celebrated *Espiritu santo*, or "Dove Plant" of the Isthmus, seems to grow and flower here as perfectly, if not better, than in its native localities.

No. 8. *Vinery*—31 feet in length by 12 feet in width, on the "lean-to" principle. This house has an ordinary furnace and brick flue, by which grapes may be forwarded a little earlier, when desired, than in those in the "cold vinery."

No. 9. *Vinery*—same dimensions as the last, and heated in the same manner.

No. 10. *Nectarine-House*—62 feet long and 12 feet wide, on the same principle, and in range with the two last. The nectarines are trained to trellises against the wall, on the highest side, Black Hamburg Grapes principally occupying the rafters in front. There is no artificial heat in this house, it being employed as a cold vinery as well as a Nectarine-House.

No. 11. *Vinery*—called the "White House," because there are no others than White Grapes, "Muscat of Alexandria," growing in it. It is 31 feet by 16.

No. 12. *Vinery*—comprising a miscellaneous collection of grapes. Dimensions same as the preceding. Both these houses are heated by hot water from one large boiler, with the circulation capable of being so regulated to any required temperature without interfering with that of the other. The vines on the rafters are taken down during the winter, and boxed up, so that the warmth inside the house has no effect on them, while the process of forcing *Peaches, Nectarines, Apricots, Figs, Strawberries, Grapes, &c.*, in tubs and pots, is being carried on. *Strawberries* are ripened in these houses in February, *Figs* in March, *Grapes* in April, *Apricots, Peaches, &c.*, in May. Both houses are neatly paved with pressed brick, as most convenient and agreeable, where so many trees cover the floor, and requiring the frequent attendance of the gardener.

No. 13. *Forcing-House*—50 feet by 10. Used for forcing vegetables and propagating certain kinds of plants. It is heated by hot water. It is divided into two compartments, in the warmest of which *Cucumbers* and *Tomatoes* may be had nearly all through the winter season; and, in the other, *Asparagus, Cauliflowers, Potatoes, &c.*, very early. A small tank is placed in the house, which possesses considerable interest as being the birth-place of the renowned *Victoria* in this country. Seedlings of this plant, and other aquatics, are still flourishing in it, the machinery for warming which is perfect, as it is in all the houses thus heated.

No. 14. *Camellia House*—62 feet in length by 15 feet in width. It is filled exclusively with Camellias, numbering several hundred specimens, many of which are of large size. This house is heated by hot water.

The waste water from all the houses passes into a basin, in the kitchen garden, where many of the Lily tribe are growing, including the "Lotus," which stood there without protection one winter, and flowered the succeeding summer and fall profusely. It also abounds in gold and silver fish. In addition to the enumerated structures, others belonging to the horticultural grounds are worthy of note, as the Tool House, where the implements are arranged with the regularity of an armory, the *Carpenter's Shop*, the *Compost House*, *Mushroom House*, *&c.*

The premises may be viewed at any time after the 1st of May, between the hours of 10 and 12, and 3 and 5, upon an order of the Auctioneers, M. Thomas & Sons, Philadelphia, to whom, for further particulars, inquiries must be addressed.

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DEAR HORTICULTURIST: If I might be permitted to intrude for a moment among the young people who partake of the savory scraps at the "Editor's Table," I would remind those of them who have a taste for the beautiful in nature, that the season is at hand when her *vegetable* beauties are most profusely displayed; and would say to all who desire to have a national acquaintance with those charming objects, that a work has been recently prepared by Professor A. Gray, of Harvard University, entitled *First Lessons in Botany*, which is most admirably adapted to the wants of beginners in the "amiable science." In my opinion, i

more thoroughly and successfully blends *the useful with the agreeable* than any other elementary treatise extant. Were *Horace* now living, and duly *posted* on the subject, I am sure he would say of it: "*Omne tulit punctum.*"

The illustrations are as ample, and so complete, so strictly scientific, yet so plain and familiar, that the way-faring boy, though a booby, cannot fail to comprehend them. I would therefore advise all the youthful listeners around your editorial table who would provide a store of pleasant knowledge for future enjoyment, to avail themselves forthwith of the aid thus furnished by an accomplished teacher. Yours, truly, SENEX.

*April*, 1857.

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COBOURG, C. W., Feb. 18, 1857.

MR. EDITOR: You say the Cloth of Gold is the finest Climbing Rose! If it is anything like the old Cloth of Gold, we would like to know where it is to be had, and how it is propagated? By layers? by cuttings? or by budding? B. LOSER.

*Ans.* By all.

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SIR: A correspondent in the February number wishes to know a remedy to prevent mice from girdling trees. The best thing I ever found, is to put white birch bark, in June or July, from trees four or five inches through; it will curl up very readily, and may be placed around the tree in the fall, and earthed up a little. It may also be laid in the spring, for another season, it being very durable. This will prevent the mice from working under. Earthing up twelve or fifteen inches is a very good plan in the fall, and remove it in the spring. Mice often come out from the rubbish about the fences, such as brush or stone heaps, or from woodlands. Grass should be grazed off about the fences in the fall; it is a great harbor for mice. Yours, B. LOSER, *Nurseryman.*

*Cobourg, C. W.*

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THE REASON WHY.—Various and valuable matter loads our tables, which has accumulated during several weeks' absence in the tropics, and which will receive attention immediately. Those who do not hear from us before this number reaches them, will please to think of us all but literally buried up in books, catalogues, seeds, advertisements, portraits of fruits and flowers, boxes of apples, bananas, oranges, tropical seeds, herbariums, shells, and coral rocks, &c., and then make whatever excuses for omissions on our part they can conjure up. A person who was fired at as a target from the Moro Castle, must be considered privileged to take time to collect his thoughts.

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BY a reference to our advertising columns, it will be seen that it is the intention of Mr. Caleb Cope to offer at public sale his superb collections of plants, besides the entire estate. Philadelphians are too well acquainted with the latter—its natural beauties, salubrity, and elegant improvements—to render it necessary for us to direct their attention to the announcement; but it will aid our distant friends to observe that such an opportunity to add the richest floral gems to their collections has certainly never been offered before, and one which we are sure they will not be slow to avail themselves of. The collection of Cactuses alone, has but few rivals in the world, and probably such another, embracing such fine and rare specimens, could not be got together again without years of labor, and great expense. We cannot close this notice without referring to a magnificent specimen of the *Brownea grandiceps*, which the collection contains; perhaps second only to the renowned *Amherstia nobilis* in rarity, grandeur, and beauty. Fortunate, indeed, will be the lucky man who secures it.

# Horticultural Societies.

PENNSYLVANIA HORTICULTURAL SOCIETY.—The stated meeting of this Society was held at Concert Hall, on Tuesday evening, March 17, 1857. E. W. Keyser, Vice-President, in the chair. The following premiums were awarded:—

By the Committee on Plants and Flowers. *Azalea*—specimen—for the best to Cornelius O'Brien, gr. to Gen. Patterson. *Collection of six Plants*—for the best to the same. *New Plants*—shown for the first time—a premium of three dollars to John Sherwood, for *Daphne* cneorum maxima, D. thymifolia grandiflora, D. vesculensis, and Azalea ramentacea (from China); two dollars to R. Buist, for Ixora floribunda and Azalea Bride. *Design for the Table*—for the best to J. J. Habermehl, gr. to John Lambert. *Basket*—for the best to the same; for the second best to Thos. Meghran, gr. to Mrs. J. P. Wetherill. *Bouquets*—for the best pair to H. A. Dreer; for the second best to J. J. Habermehl. *Special Premium*—five dollars to Peter Raabe, for a beautiful pyramid of Hyacinths, and a collection in pots.

By the Committee on Fruits. *Pears*—for the best (the Easter Buerré) to John Chambers. *Apples*—for the best (the Chesterfield Pippin) to the same; for the second best to John Perkins. *Special Premium* of three dollars to John Chambers, for a beautiful display of Apples.

By the Committee on Vegetables. *Lettuce*—for the best six heads to James Jones, gr. at Girard College. For the best display by a market gardener, to A. L. Felton; for the best display by an amateur gardener, to Thos. Meghran, gr. to Mrs. J. P. Wetherill.

*Gifts.*—A copy of a biographical memoir of the late François André Michaux, by Elias Durand. Proceedings of the Sixth Session of the American Pomological Society. *Grafts* of the Lycurgus Pear, from F. R. Elliott.

OBJECTS SHOWN.—*Plant* from Gen. Patterson's specimens—Azalea splendens. *Collection of six*—Mahernia odorata, Azalea coccinea, A. speciosissima, Richardia Æthiopica, Acacia grandiflora, and Forsythia viridissima.

By John Sherwood. *New Plants*—Azalea ramentacea, Daphne cneorum maximum, D. thymifolia grandifolia, and D. vesculensis.

By Robert Buist. *New*—Ixora floribunda and Azalea Bride.

By Peter Raabe. A large vase of Hyacinths; also pots of same.

By Theodore Walter. Very fine cut Tulips.

*Designs, &c.*—By J. J. Habermehl, gr. to John Lambert. A table design, a basket, and hand bouquets.

By Thos. Meghran. A basket.

By H. A. Dreer. A pair of bouquets.

*Fruit.*—By John Chambers, Mt. Holly. *Pears*—four kinds. *Apples*—about thirty varieties.

By John Perkins. A dozen each of Monmouth Pippin, Ridge Pippin, and Chester's Spitzenburg.

*Vegetables.*—A large display by A. L. Felton.

From Mrs. J. P. Wetherill. A handsome display.

From gardener at Girard College. Six heads of lettuce.

# Calendar of Operations.

## MAY.

## THE VINEYARD.

BY R. BUCHANAN, CINCINNATI, OHIO.

EARLY in this month, the ground in the vineyard may be cultivated—if it was omitted in April. If the plough is used, be careful not to break off the young shoots, now starting rapidly. About the middle of the month, rub off superfluous shoots and suckers, leaving the strongest on the spur and the bow, to bear the fruit crop, and for bearing wood for next year.

In this climate, the grape-vine is in blossom toward the latter end of the month. Just before blooming, pinch off the ends of the young shoots two or three joints beyond the last blossom bud, except on two of the strongest branches, which are to be trained to the top of the stakes for bearing wood the year following. Tie up the young vines carefully to the stakes with rye straw (made damp, to be pliable), or any other cheap tie, as they are liable to be broken off by high winds. In training to trellises, the same treatment is necessary,

and the shoots should be spread out judiciously on the trellis, to receive their due proportion of light and air.

Keep a sharp look-out for *insects*, and destroy such as are depredating. The lady-bug is not of that class, but a small green worm will often be found eating the blossom bud just as it expands from the leaves. These must be watched closely, and destroyed.

Give the young vines and cuttings in the nursery (if you have one) a light hoeing, to keep down weeds, and promote the growth of the vine.

### BY WILLIAM SAUNDERS.

VEGETABLE GARDEN.—Seeds of the various cabbages for winter use should be sown, such as Savoys, Brussels sprouts, Cape Brocoli, flat Dutch cabbage, &c. Sweet corn, Lima beans, watermelons, sweet potatoes, and cantelopes, may also be attended to as early as the weather and soil will permit. A successful method of combating the *striped bug*, so injurious to the melon and cucumber tribes, consists in covering the hills with loose squares of glass. Four small wooden pegs are inserted in the ground, so as to inclose the *hill* of plants; a square of glass sufficiently large to cover them, is then laid on the pegs. This has been found as effectual in *scaring* the insects as the common contrivance of a small wooden box, without its defects. The plants are exposed on all sides to air and light, and the glass cover further prevents the soil being consolidated by heavy showers.

Young plants should not be allowed to crowd each other in the seed bed. Thin them out, so as to give space for each to be exposed to light and air. It is better to transplant in a sheltered border for two or three weeks, to produce a mass of fibrous roots, and if then carefully lifted and set out, will immediately start into vigorous growth. Before planting, make a furrow, with a hoe, three or four inches deep, and plant in it. The raised sides of the furrow will protect the plants for a time, and the first hoeing will level the soil over their roots.

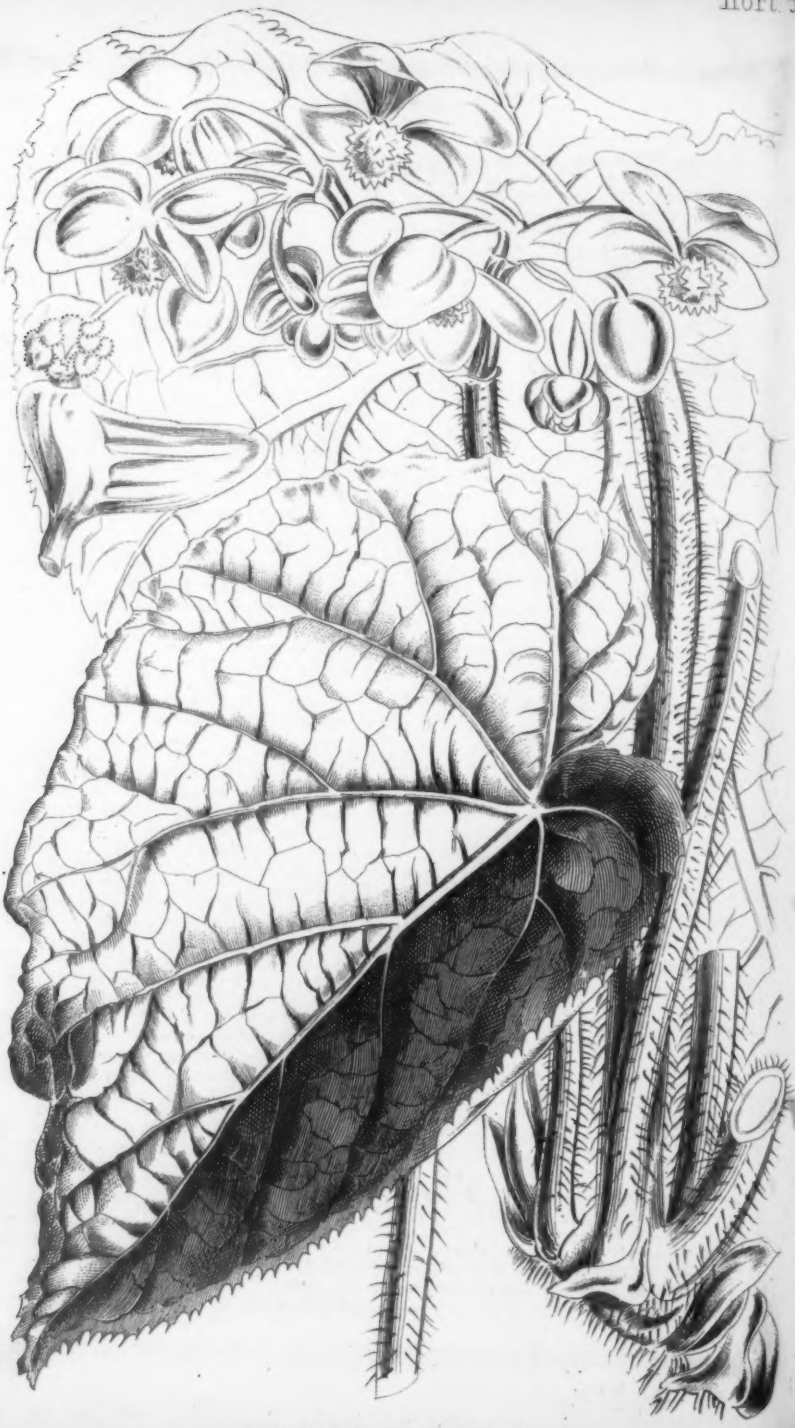
FRUIT-TREES.—In former remarks on winter pruning, it has been suggested to prune very sparingly all those of luxuriant and thrifty growth; such will now require attention in picking out the points of all shoots that exhibit a tendency to luxuriance. This pinching process appears to be looked upon by many as a *fancy* species of cultivation only applied to dwarf pear-trees. So far from being so, it is, practically, the most important subject to which the attention of fruit growers can be directed. By its means, they can induce fruitfulness in young trees, and keep them uniformly productive. It is economical, inasmuch as it is easier to rub off a bud than to saw off a branch, and, when thoroughly understood and acted upon, branches are permitted to grow only when and where they are wanted. Fruit-trees, when healthy, and growing in good soil, have a tendency to make strong, yearly shoots at the extremity of the branches, the lower buds on the tree remaining dormant, or producing only weak shoots. *Pinching* consists, practically, in checking, at an early stage of growth, these robust shoots, by breaking out their points; this retards their longitudinal extension, and causes a development of latent buds, producing short, lateral growths, which are the future fruiting points. Our most successful fruit growers are becoming convinced that this is the only method of securing full benefit from good cultivation; otherwise, manuring only increases wood growth, to be lopped off at the winter pruning.

When the size of a tree is the only object in view, summer pruning should not be practised.

GRAPES UNDER GLASS.—I would again repeat the advice given in former calendars: "Towards the end of the month, leave the top sashes open a little during the night, allowing the temperature to fluctuate similar to the external atmosphere. There is no climate in the world where the temperature is constantly the same." It almost seems unnecessary to state that when frosts occur, the house should be closed.

GREENHOUSE.—Plants may be set out in the air when their growth is completed—of such kinds as azaleas, camellias, &c.; and young plants of many kinds will grow better, with less care, by turning them out of pots, and planting in the flower beds. Summer flowering plants should receive attention; always water in the mornings, and keep the atmosphere moist by evaporation of water thrown on the floor and walls; a slight syringing occasionally during the day, will assist much in this respect.

PLANTING.—The early portion of the month will be found a good season for removing evergreens north of this. There is too little attention paid to preserving the roots during removal. To see the roots of trees exposed for hours to a hot sun and drying winds, is a painful sight. Trees so treated ought to die. I lately visited a pleasure plantation, and observing that all the trees were remarkably straight-stemmed, was told that all crooked trees will straighten themselves by simply running down a slit in the bark, with a knife, on the side towards which the tree is desired to come.



BEGONIA XANTHINA.